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Illustrations OF HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

BIRMINGHAM GENERAL HOSPITAL.

CASES OF EPILEPSY; WITH REMARKS.

By J. RUSSELL, M.D.

[*Clinical Clerks*—Messrs. WALLS and MAY.]

A SUCCESSION of cases of epilepsy, which have occurred to me in the practice of the Hospital, affords useful illustrations of some subjects connected with the disease.

The history of four cases exemplifies the effect of *mental influences* in inducing epilepsy; in two cases, the disease appears to have been the consequence of sudden intense emotion; in two, it occurred as the result of protracted worry and anxiety.

CASE I. J. P., aged 11, a healthy looking boy, four years ago, saw a man who had just cut his throat; shortly afterwards, he was greatly alarmed by a man running upon him in the dark, in a solitary place, from behind a tree. The latter occurrence affected him much more than the former; he made frequent reference to it, especially when passing near the spot; and his mother directly attributes his disease to the alarm it occasioned. He had a fit of the milder form of epilepsy about a month afterwards; and, after a repetition of similar fits with increasing frequency, for three years, he became the subject of fully developed epilepsy.

CASE II. T. C., aged 14, a pallid, cachectic boy, was much alarmed by a policeman, who threatened to take him to prison. He dreamt of the alarm at night: and was "very dull" during the following day, and in the course of the night had an epileptic fit. This happened two years and a half ago; and the fits have returned, at first in the night, of late with great frequency. His memory is too infirm to allow of his giving particulars as to the periods of their occurrence.

CASE III. A very interesting case, of a similar character, happened to me in the person of a man, aged 41, who had been greatly alarmed by a fire. In the course of the following three weeks, he had two slight attacks of an epileptic character; afterwards, his manner was thought to be peculiar, and his memory to be somewhat impaired. The fire dwelt on his mind; he talked of it incoherently in his sleep; and his wife told me that he was so uneasy at night, that she was afraid to go to sleep. He was always of an anxious temperament. Three months afterwards, he was seized in the night with a fit of epilepsy of great severity, and lay partially insensible for a fortnight. This occurred two years before I saw him; but he has not had any return of the fits.

CASE IV. J. G., aged 28, a very nervous, fanciful man, and of anxious temperament, has been working very late (till eleven or twelve o'clock) for some years, and has had much anxiety in his business. His sleep was disturbed by frightful dreams; and he now shouts so much in his sleep as seriously to disturb his fellow patients. He has also suffered from headache and vertigo, perspirations and palpitation; he lost flesh and became very nervous, and his mental powers enfeebled. Two months ago, he had two fits, apparently epileptic, in the night.

CASE V. Mrs. H., aged 21, a feeble, cachectic woman, has had much trouble for three years, from the intemperate habits of her husband. She has "fretted" much; and has often lain awake for two or three nights, thinking of her husband's cruelty, and of the poverty of her family. She has had frightful dreams; and her spirits have been much depressed. She has now been suckling for seven months, and has become feeble and pallid. Five weeks ago, she was taken with an epileptic fit whilst lifting some coal; and since that time she has had two others.

CASE VI. In a similar case, which happened to me at the Dispensary, an epileptic fit appeared to be, as it were, an explosion of long pent up care. A respectable married woman, whose husband had involved himself with a partner in an unprofitable business, had a store of money, which she concealed from him. This fund she doled out by little and little, as his necessities became pressing; at last she came to the final instalment: as she was bringing it down stairs, she fell into a fit of epilepsy, and four or five others followed in the course of the same day. During the fourteen years which have since elapsed, the fits have recurred many times; they never fail to happen if she be unusually anxious.

In the JOURNAL of March 6, 1858, I reported an instance of spasmodic croup presenting itself in six of seven children of one family. A family now in attendance at the Hospital manifests a similar tendency to epilepsy.

The mother is a very nervous woman, but is healthy; the father is healthy. A sister of the mother is at present insane. No member of either family, of the elder generation, had been subject to fits. A son died insane and epileptic; he resembled his mother.

CASE VII. Thomas, aged 19, strongly resembles his mother; he has dark complexion, and dark eyes. His first fit occurred about five years ago, having been preceded at times by "jerkings" in all parts of his body; a second happened in three months afterwards; and the intervals have gradually lessened until, at the present time, he has a fit once or twice in the week.

CASE VIII. William, aged 16, resembles his father's family; his complexion and his hair are light. He has had epilepsy for three years, the first fit having been preceded by severe pain in his head: the second followed in a month. The fits returned with increased frequency, and were especially occasioned by hard work, so that, whilst he was engaged in his business, they averaged one in a week.

CASE IX. Sarah, aged 14, has dark eyes, and resembles her mother. She has not menstruated. At the commencement of her disease, six years ago, ten fits occurred on the same day. The second attack did not happen until an interval of three months had elapsed; she has only had three or four since, and none for fifteen months until the other day, when she fell into a fit, and on the following evening fancied she saw her father standing over her with a knife. In the course of the fifteen months, however, she has had attacks of a slight character, which she calls "tickings", often many times in the day. She starts much in her sleep.

CASE X. Edward, aged 11, who has dark eyes, has suffered from "jerkings" in his left arm, and from vertigo; he starts and talks in his sleep, and grates his teeth. The other day, in endeavouring to escape from a restive horse, he suddenly lost his sight, and became unable to move.

The mother cannot assign any cause for the epileptic fits; but the children live in a constant state of alarm, dreading their brother's unhappy fate.

Their eldest brother, aged 25, is quite healthy, but faints at the sight of the slightest wound. An elder sister, aged 20, is far advanced in strumous disease; she has opaque cornea, and enlarged cervical glands. A younger sister, aged 9, who has dark eyes, and resembles her mother, is nervous, and very readily frightened; she is subject to headache, and complains of seeing sparks flitting before her eyes. She is obliged to leave school, in consequence of a tendency to faint from the heat of the room. The youngest child, a boy aged 3, is very nervous, and "will start at a shadow". He is afraid to go to bed alone. The sleep of all the younger children is very disturbed.

[*To be continued.*]

UNIVERSITY COLLEGE HOSPITAL.

SIMPLE FRACTURE OF THE SKULL, WITH DEPRESSION: RECOVERY.

Under the care of J. E. Erichsen, Esq.

[*From the Hospital Case-Book.*]

James G., aged 3¼, was admitted at half-past twelve at noon on September 21st, having a few minutes before had his head crushed between a mangle in motion and the wall. The bystanders asserted that they heard a crash from the bones giving way. When admitted, he was quite sensible, and conversed readily with his mother. The pulse was about 100, feeble, and not quite regular. He was quite warm. The breathing was regular. There was no bleeding from any cavity; no paralysis. On the right side of the head, immediately above the ear, was a swelling, of the size of half a small orange, soft, fluctuating, not tense, with well defined margins. On making firm pressure on this, the sharp edge of a fracture of the bone could be felt at the back, top, and front, enclosing an oval space three inches and three-quarters from before backwards, and an inch and a half from above downwards. The depressed portion could not be reached. The finger could be pressed in about a quarter of an inch below the prominent margin.

The hair was cut off, a bladder of ice applied, the head elevated, and a purge of calomel and scammony given.

In the afternoon (2 P.M.), the swelling had very much increased; and the two movements of the brain (one synchronous with the pulse, the other with the respiration) were plainly perceived in it, both by the eye and hand. Later on (7 P.M.), when the swelling had become more tense, the respiratory movements were no longer perceptible, though those of the pulse remained so. He was less sensible, taking no notice when handled; but recovered consciousness towards evening so far as to resist when a bladder of ice was applied.

September 22nd. He had a quiet night, and was quite conscious next morning. The right pupil was noticed to be larger than the left. He could move all his limbs naturally. The bowels were only opened by injection. The pulse was 76, regular in force, but intermitting.

It is hardly necessary to give detailed notes of the remainder of this case, as no symptoms followed. The fracture remained quite distinct on October 1st. A few days afterwards, he left the Hospital quite well.

II. COMPOUND FRACTURE OF THE SKULL, WITH SLIGHT DEPRESSION: RECOVERY.

Under the care of J. E. Erichsen, Esq.

[*From the Hospital Case-Book.*]

Charles W., aged 6, was admitted on Sept. 21st, at half-past 4 P.M., on account of an injury to the head, received about twenty minutes previously, from falling off the banisters down a staircase three stories high on to a stone floor. He was in a state of collapse on admission. There was a wound over the right eyebrow, extending about an inch backwards and upwards, in which a fracture of the skull was exposed. This was a linear fissure, the upper margin of which was about the eighth of an inch below the lower, and traceable for about half an inch downwards in the direction of the orbit. There was much swelling and contusion of the soft parts of the forehead and face; and the eyelids were so much swollen from ecchymosis, that it was impossible to expose the pupil on that side. The left pupil acted freely. There was pretty free epistaxis. Soon after admission, he vomited bloody fluid. He cried lustily, and resisted examination. There was no palsy or twitching, and no bleeding from the ears.

The wound was dilated, for the purpose of more thorough examination; but no indication was found for interference. The hair was cut off, ice applied to the head and warmth to the feet, and two grains of calomel with eight of scammony given. The bowels acted copiously in the evening, the motion being dark from the presence of blood. He lay during the greater part of the evening tranquilly asleep, and did not take notice of anything. In the middle of the night, however, he became restless, and was then observed to have quite recovered consciousness. He vomited occasionally during the night.

Next morning, the face was flushed; he was restless, and complained a good deal. The bowels had only been moved once. A scruple of compound jalap powder was given, and repeated in the afternoon, followed by castor oil; but it produced no effect. In the evening, the pulse was 96, irregularly intermitting. There was no prominent symptom. A drop of croton oil was placed on the back of the tongue.

Next morning (23rd), the bowels had been freely open. He was restless, and took little notice of the bystanders, but kept calling for his mother. He took milk when offered. The pulse was very feeble and irregular. The swelling on the forehead was increasing, and the edges of the scalp-wound were sloughy. An incision made through the swelling gave exit to a considerable quantity of sloughing cellular tissue and puriform matter; and serum continued to ooze through it in large quantity. The finger introduced into the wound did not detect the continuation of the fracture. There was a watery and bloody discharge from the nares, and pus from the eyelids; and so copious a discharge of serosity from the wound as to drench the bed around him. The breathing was easy; the pulse rapid, feeble, and intermitting. The scalp was found to be separated from the bone as high as the vertex; and a quantity of matter had collected beneath it, which was washed out. This operation was strongly resisted by the patient.

Next day, he was a little more sensible, and took some food; and, on the 26th, was quite conscious, but in constant pain, and very fretful.

He continued in the same way for several days, gradually improving in all respects, the pulse increasing in strength, and the discharge from the wounds gradually diminishing. The only unpleasant symptom was, that the bowels were very much constipated, requiring the occasional administration of croton oil. On October 7th, he was seized with headache, was restless, with heat of skin, and slight twitchings of the hands and arms. The constipation was still troublesome. This was followed by the formation of abscess in connexion with the wound, after which all the symptoms subsided, and he gradually recovered. He is now (November 25th) still in the Hospital; but the wounds are healed, and he is perfectly convalescent.

ST. GEORGE'S HOSPITAL.

I. COMPOUND FRACTURE OF THE SKULL, WITH SLIGHT DEPRESSION: RECOVERY.

Under the care of H. C. Johnson, Esq.

Wm. Nicholl, aged 15, stable-boy, was admitted on May 10th. He was run away with by a horse and cart, and thrown out of the cart, pitching against a wall upon the left side of his head. He was insensible just for a minute, but remembered that he was picked up directly and put into a carriage. On admission, there was some swelling of the left side of the face, and a wound, about two square inches in size, at the left frontal suture. The bone was exposed for about the size of a shilling, and there the bone was fissured in two places (one at each end of the exposed bone), and the intermediate portion slightly depressed. Mr. Johnson was sent for; but, as there was no symptom of compression of the brain, he did nothing. One piece of strapping was put across the centre of the wound, to keep it in apposition; and water-dressing was applied.

May 11th. During the night he did not sleep much, and was at times rather restless. He took some beef-tea. He has never been insensible. The pulse is 84, full; the tongue white and furred. The surface was warm and perspiring. He has some shooting pain in the head, at the seat of the injury. He feels very drowsy this morning. There is no numbness of any part of the body, or of any limb; he can move every part. He has passed urine.

May 12th. During the night he was very quiet, and has remained so ever since yesterday. He is still sleepy. Pulse 126, strong. The tongue is furred and white. The surface is perspiring. He has no pain whatever in the head. There is a little swelling and inflammation about both eyes. The wound looks glazy and rather dry.

From this time the boy had no bad symptom, and soon left the Hospital.

II. COMPOUND FRACTURE OF THE SKULL, WITH DEPRESSION: DEATH.

Under the care of H. C. Johnson, Esq.

George H., aged 50, was admitted on October 20th, under the care of Mr. Johnson. About one hour before admission, he was struck on the left side of his head by the shaft of a mill worked by horse-power, knocking the opposite side against a wall, which struck him on the right parietal bone. On admission, at 5.30 P.M., he was quite sensible, not having been insensible since the accident; he remembered perfectly every-

thing that occurred. There was a large wound, about four inches long, over the right side of the head, running across the middle of the right parietal bone. The bone was exposed for the space of a shilling piece. The wound was very ragged, and part of the scalp was torn downwards from the pericranium. There was a wound on the left side of the head, just behind the external angular process of the frontal bone, of about the size of a florin piece; the wound was very ragged, and led down to a comminuted fracture of the skull, which was driven somewhat into its cavity. Pulse 60, rather weak. The pupils were regular, and acted. Wet dressing was applied. At 9 P.M. Mr. Pollock saw him, and extracted all the loose portions of bone; they showed, on their internal surface, the ramifications of the meningeal artery, and appeared to belong, at least some of them, to the great wing of the sphenoid. There were about six pieces, and when put together, made a circumference of the size almost of a florin. There was no bleeding. The dura mater was seen exposed, but healthy. The brain appeared to be at some distance from the skull.

12 P.M. He is very quiet; has no great pain in the head; pulse 60, quiet.

October 21st. Pulse 72; rather full. He does not complain of his head, and is very quiet. He was ordered to have four grains of calomel immediately, and a senna draught in four hours.

October 22nd. The wound is very quiet. Pulse 80. The bowels were freely open after the purgatives.

October 23rd (1 A.M.) During the last hour he has been restless, getting out of bed twice; and complained much of his head. When seen, he was constantly moving his right arm to and fro, not convulsively; but when spoken to, he answered rationally. Pulse 84, and soft. The face has lately been flushed. The mouth is slightly drawn to the right side; but this seemed to be due to bruising of the face. He was ordered to have three grains of calomel every four hours.

At 5 A.M. A blister was applied to the neck.

11.30 A.M. He is delirious this morning, and does not answer when spoken to. He is constantly talking incoherently. He passes his urine under him. The wound on the right side is sloughy and œdematous; that on the left side dry and glazed. Pulse 104, weak. He has no paralysis. The face is flushed.

5 P.M. He is quite insensible. The breathing has become very laborious. The pupils are insensible; the left one is contracted; the right one a little more dilated. Pulse regular, 140, weak. He is sweating profusely. The right arm and hand are convulsively flexed.

8 P.M. There is stertorous breathing; he is sinking. The wound on the left side is discharging a quantity of serum.

11 P.M. He died, comatose.

Post Mortem Examination. The body was in good condition. There was a large scalp-wound exposing bone, just behind the right ear. Much lymph was contained in the subaponeurotic tissue around the wound. On scraping away the temporal muscle on the opposite (left) side, the hole in the skull, made by the removal of the bone during life, was found to be about the size of a halfcrown. A large part of the squamous portion of the temporal bone was found to have been driven in, and was depressed to the depth of nearly an inch on to the surface of the brain. The broken part, which was rather larger than the piece which had been removed, was split into two by another line of fracture. It was firmly locked in below the sound part, so that much force was required to elevate it. That being done, the dura mater was seen to be perfectly healthy, while that exposed by the wound was smeared with lymph. A considerable quantity of pus was found in the arachnoid sac on the left side. Some blood was effused in the muscles of the pia mater, over the left hemisphere of the cerebellum, the pons Varolii, and down the spinal cord. There was no laceration of any part of the brain, and, except for the compression, it seemed healthy. The fracture was traced through the middle fossa, which was somewhat comminuted, into the sphenoidal fissure.

Remarks. The four preceding cases illustrate several interesting points in the pathology and treatment of fracture of the skull. The first two are instances, common enough, but well marked, of the great violence and extensive injury which may be suffered in childhood without the fatal termination which, in more advanced periods of life, would be only too probable, and encourage us to hope for good results in such cases from expectant treatment. The first presents the interesting peculiarity of a swelling formed by effused fluid connected with a fracture of the skull, in which the two motions of the brain were perceptible beneath the scalp. This fact testifies to the free communication which must have existed with the interior of the skull, and renders the subsequent recovery the more interesting. In the second case, a very free discharge of serum will be noticed to have occurred from the scalp-wound in connexion with the fracture. The fortunate issue of the case prevents us from forming a conclusive opinion as to whether this discharge was of the same nature as that so often seen from the ear, where communication exists between a fracture in that part and the subarochnoid space, or whether it was merely the serum of the blood effused about the fracture. The occurrence of the former kind of serous discharge is known not to be limited to fractures of the base; and Mr. Prescott Hewett has collected in his *Lectures on Injuries of the Head*, a whole series of cases in which it took place from the vertex (*vide Medical Times*, vol. ii. 1858, pp. 183 and 199). The third case is connected with the other two, as showing that, at any rate in the young, a slight amount of depression is no infallible indication for trephining, but that such cases often do well when left alone. Lastly, the fourth case is a good instance of the great amount of compression which may be suffered by one part of the brain when a contiguous portion is relieved from pressure by the removal of the bone. In this case, it is quite clear that had the extent of the depression been discovered and the bone elevated (an operation, by the way, which would have been in no small degree bloody and formidable, as almost the whole temporal muscle would have been scraped away), the patient's condition would not have been thereby improved, inasmuch as he suffered not from the compression produced by the bone, since that was just as great at first, when he had no symptoms, as at last, when he was comatose, but from that produced by the effusion of pus in the inflamed arachnoid. Now, the inflammation of this membrane had evidently been propagated from the dura mater, of which the part exposed had become inflamed, while that covered by the depressed bone was healthy. To have removed the bone, therefore, and so exposed a larger surface of the dura mater would, as it appears, have only extended and hastened the fatal inflammation.

Original Communications.

OBSERVATIONS ON PARTIAL PARALYSIS.

By C. M. Durrant, M.D., Physician to the East Suffolk and Ipswich Hospital.

Case I. *Facial Paralysis.* A female, aged 35, after having travelled from Ipswich to the Crystal Palace and back again in the day, as one of an excursion party, was seized on the following morning with paralysis of the muscles of one side of the face.

She stated that she went to bed feeling greatly fatigued and perfectly well, but on the following morning she discovered that she was unable to close the left eye, and that her mouth was very much distorted. She was not sensible that she sat in a draught of air during the journey, or at the Palace.

On seeing her about a week after the attack, I found complete paralysis of the orbicularis muscle of the left eye. The ball of the eye was drawn upwards; but it remained perfectly uncovered when she attempted to close it. She possessed perfect control over the right eyelid. The mouth was considerably drawn towards the sound side; but the tongue was unaffected, and there was no local anæsthesia. The pulse was feeble, but not accelerated; tongue tolerably clean; bowels regular, catamenial function healthy; urine clear. Blisters were applied behind the ears, and were directed to be kept open. Ammonia internally, together with one-sixteenth of a grain of the bichloride of mercury, every night at bedtime, were the remedies prescribed. The diet was ordered to be unstimulating, but nutritious.

Remarks. In this case the superficial muscles of the left side of the face, and orbicularis of the same side, were those affected, indicating loss of function in the branches of the portio dura. The exciting cause of the palsy was probably two-fold: first, exposure to cold; from which, although not particularly noticed at the time, she could scarcely, when returning late at night, be exempted; and second, the excessive fatigue and excitement, necessarily attendant upon a holiday trip of this description. These causes, I imagine, acted partly by lowering nervous energy, and partly by producing some local but direct

pressure upon the nerve after its exit from the stylo-mastoid foramen.

Depletion, in any form, was not indicated; but a diffusible stimulant to restore tone, which had evidently suffered, and the bichloride of mercury as a precautionary measure to effect the absorption of any adventitious deposit around the nerve which might possibly cause pressure.

Case II. *Facial Paralysis.* A young, delicate female, aged 16, was suddenly seized in the evening, after a fatiguing day's work, with complete motor paralysis of the left side of the face.

She presented herself as an out-patient of the Ipswich Hospital about a fortnight after the attack. The face then assumed the characteristic disfigurement of this affection. When perfectly quiescent the two sides of the face appeared nearly symmetrical; but on the slightest attempt to speak or laugh the countenance became painfully distorted, by the inordinate action of the muscles on the sound side—the features of the affected half remaining passively motionless. The eye was uncovered by the lid, constituting well marked lagophthalmia. There was neither pain in the head nor giddiness. The tongue was clean, the bowels were open, and the catamenia regular.

Blisters were ordered to be kept open behind the ears, and ammonia, with the bichloride of mercury, were prescribed, as in the former case, and with similarly satisfactory results, the patient recovering the natural power, both of the orbicularis and facial muscles.

Remarks. The immediately exciting cause of the attack in this instance was by no means clear, as, beyond the exposure of the patient to considerable fatigue, we were unable to trace it to any more direct disturbance, although doubtless some local pressure obtained to interfere with the function of the facial nerve.

Case III. *Paralysis of the Tongue.* A tradesman, aged 45, of an excitable, nervous temperament, having recently undergone much anxiety and fatigue, consequent upon making considerable additions to his business premises, became suddenly seized with inability to articulate, excepting under the most painful amount of stuttering and muscular effort. It appears that on a former occasion a somewhat similar attack occurred, but this quickly subsided without medical treatment.

On the present occasion he had been relieved by remedies; but having been excited by the effort to tune a piano (an occupation he was in the habit of following), he had a relapse, which afforded the occasion of my seeing him in consultation. I found him nervously excited, complaining of occasional headache, but without nausea, scintillations or noises in the ears, and there was no drowsiness. Both pupils acted naturally. The tongue was fairly clean; the appetite was good; the bowels regular; the urine clear. The pulse was quick, and with diminished power. When, however, he attempted to speak, the most painful stuttering and loss of power over the organ was the immediate and distressing result; the attempt producing much additional excitement.

He had been blistered on the nape of the neck, and had taken antispasmodics, with alterative aperients. It was now agreed, in consultation, to give him the sesquicarbonate of ammonia, with tincture of calumba and camphor mixture, and at night the bichloride of mercury. The diet was directed to be generous, with bitter ale; to avoid smoking, to which he was addicted, and to refrain at present from business, as well as from all sources of excitement. Under this plan of regimen and treatment, the speech has been greatly benefited, and he is again able to resume his avocations.

Remarks. The lesion of function in this case was confined to the lingual nerve, and was caused, probably, by venous congestion, or slight serous effusion, at or near its origin. With this, there was diminished nervous power in the heart's action, to which, in some degree, the local disturbance may probably be attributed.

Case IV. *Paralysis of Three Fingers of the Left Hand.* An elderly lady, having retired to bed in her usual health, discovered, on rising in the morning, that she had lost the power of using the middle, ring, and little fingers of the left hand. This loss of power was accompanied by tingling and numbness, extending to the wrist, together with contraction of the fingers towards the palm, and difficulty in keeping them extended without the assistance of the other hand.

I saw her the next day. Her general health was good, excepting slight sluggishness of the bowels. There was neither headache, nor anything—beyond the local paralysis—indicative of cerebral disturbance. The pulse was natural in frequency, but weak in tone.

She was directed to live plainly, but generously; to take the sesquicarbonate of ammonia, with infusion of gentian; and to ensure the regular action of the bowels by taking (if necessary) daily, one or two drachms of castor oil. She was also ordered to use friction to the hand, and to keep the fingers extended upon a firm piece of gutta-percha.

I did not see this case regularly, but on her last visit to me she was somewhat improved, and had, to a certain extent, regained the power of extending the fingers.

Remarks. In this case the lesion was evidently of cerebral origin, and it indicates, I fear, with too much certainty, that which will sooner or later obtain in a graver form. Partial paralysis is a very interesting, and, at the same time, a very important affection to study. While, in the majority of young persons, when it is confined to loss of power in the facial muscles, there is little real danger to life; on the other hand, when it occurs to those of more advanced years, especially if there be numbness, drowsiness, and other symptoms pointing to the brain as their origin, a much less favourable opinion will be called for, indicating, as they do, that "beginning of the end," upon which a more general and, perhaps, fatal attack will very probably follow.

If one or more of the extremities be paralysed, as well as the muscles of the face, we must, of course, look to the brain as the exciting cause; and it is a question which will be pressed home by the friends of the patient suffering from facial palsy, as to how far the brain is implicated, and more especially as to the probability of ultimate recovery.

In the preceding cases the motor function of the muscles was alone implicated; but partial paralysis may give rise to disturbance of sensation also, existing per se, constituting local anæsthesia, or conjointly with derangement of muscular action.

That the function of the portio dura was alone affected in the two facial cases, was evidenced from the interesting fact that the power of mastication was retained, shewing that the temporal and masseter muscles (which derive their motor power from the anterior branch of the fifth) remained unaffected.

When, on the other hand, the function of the fifth nerve is alone involved, we have local anæsthesia from disturbance of its sensitive branch, and, at the same time, paralysis of the masseter and temporal muscles, from lesion of its motor branch. These physiological and pathological phenomena render the study of these affections deeply interesting.

The function of the portio dura may be interrupted, causing facial paralysis in any part of its course. Thus, a direct injury, as from a blow, a draught of cold air, or pressure from a contiguous tumour, may severally affect the nerve after it has emerged upon the face, or it may be equally produced by an injury to the portion of the nerve within the temporal bone, as by a sudden concussion, or fracture of the base of the bone, causing hæmorrhage, and thereby pressure; or lastly, as already stated, the lesion may be situated in the brain itself; but when this obtains we shall generally be able to detect some additional indications of cerebral disturbance. The most common cause of facial palsy is unquestionably exposure to cold, exciting inflammation or congestion of the surrounding tissues, and consequent pressure upon the nerve, either external to or within the bony canal.

There are other cases, as in the second above narrated, in which it is very difficult to define with any degree of certainty the precise cause upon which the paralysis depends.

Although the danger to life is very small to the majority of patients thus affected, the treatment should nevertheless be prompt, and for this reason, viz., that a very small amount of induration around the nerve, keeping up pressure, may render the case one of permanent deformity. If, then, we see the case early, and have reason to suspect an inflammatory or congestive origin, we should have recourse to local depletion in the neighbourhood of the nerve, either by leeches or cupping: fomentations to the side of the face, or the steam of hot water directed into or around the ear; purgatives: blisters kept open behind the ear of the affected side; and mercury steadily given to affect the gums, unless the paralysis give way prior to this result taking place, when its use should be suspended.

Affecting the system slightly by mercury is a safe and necessary measure, in order to ensure the absorption of any deposit or thickening of tissue around the nerve—in all cases in which this loss of power yields but slowly, or threatens to become persistent.

When there is no inflammatory action, the sesquicarbonate of ammonia, with or without a few minims of the tincture of cantharides, to sustain nervous power and to promote absorption, should be administered in addition. In all the above cases, this remedy, although not trusted to solely, had the best effect.

CONTRIBUTIONS TO CLINICAL SURGERY.

By Oliver Pemberton, Esq., Surgeon to the General Hospital, and Lecturer on Surgical Pathology at Sydenham College, Birmingham.

VI.—Excision of the Knee.

[*Continued from page* 961.]

I proceed, therefore, to the narration of further cases, exhibiting, some of them, the ordinary, and others, the least frequent complications, attending this operation.

Case II. G. W., aged 7, a pale, fair-haired, delicate-looking child, was admitted into the General Hospital, Birmingham, on June 8th, 1857, under my care, with disease of the left knee-joint.

History. The knee has been diseased for the last two years; and on two occasions during that period he has been a hospital patient. The disorder commenced after a slight injury occasioned by a fall. His parents are living, and his brothers and sisters are in good health. He has not had glandular enlargements, nor have the lungs shown symptoms of disease.

Present State. The left knee is enlarged and rounded. There is an elastic elevation, corresponding to the synovial spaces by the sides of the patella. The inner condyle is much larger than natural, as is also the head of the tibia. The leg is semiflexed, and admits of very slight motion, which produces acute pain. The integuments are not ulcerated, and are free from pain, with the exception of the spaces by the sides of the patella above referred to. The muscles of the limb are much wasted, but the bones correspond in length to those of the opposite limb.

The treatment, continued for several months, consisted in the careful adaptation of gutta percha splints to the joint, whilst a splint was also applied to the whole length of the limb, and was furnished with a foot-piece and screw, so as gradually to straighten the extremity; at the same time, cod-liver oil and a nutritious diet were prescribed, with a view to the improvement of his general health. At this time the child suffered but little pain, though it was evident, no less from the increased size of the knee than from the wasting of the patient's frame, that the disease was making a gradual progress.

In September, there appeared a swelling above the patella, apparently outside the joint, and situated amongst the tendons of the quadriceps. There was an obscure sense of fluctuation about this, but it was entirely free from pain.

Soon after this time, I was desirous to excise this patient's knee, as I was satisfied of the presence of very extensive disorganisation of the joint, and was of opinion that further delay would not prove advantageous. In consultation, however, with my colleagues, the symptoms were not deemed sufficiently urgent to render immediate operative interference expedient; and consequently, the treatment by rest and general means was continued.

Finding that no improvement had manifested itself, either in the part affected or in the constitution, I resected the joint on December 16th.

Operation. The patient being placed under the influence of chloroform, the usual semicircular incision was carried from one condyle, across the ligamentum patellæ, to a corresponding point on the opposite side. The termination of the incision opened the abscess in the quadriceps, and gave exit to a large collection of pus; the soft parts were then cleared, and the ligamentous tissues divided. Before I was aware of it, the knee had been forcibly bent, and the remains of the crucial ligaments were torn through. This proceeding compelled me to saw off and remove the articular ends of the femur and tibia separately instead of in their connected state. The bones were sawn through with an ordinary amputation-saw, and no spatula was introduced. The patella was not removed, No vessel required a ligature at the time of the operation.

Two hours subsequently, the limb was accurately adjusted, and a modification of the Macintyre splint applied, which admitted of the wound being dressed without disturbance, and the boy being placed on a water-pillow, the extremity was lightly suspended in a swing-cradle. A small vessel proving troublesome during the dressing, it was tied, and the edges of the wound were closed by sutures.

Examination of the Resected Bones. About three quarters of an inch of the femur, and rather less than half an inch of the tibia, were removed. The synovial membrane was everywhere in a condition of scrofulous degeneration. The cartilages covering the prominent surfaces of the condyles were almost entirely destroyed, large pieces being separated or only loosely connected with the bone beneath. The head of the tibia on the inner side was in the same condition in regard to its coverings. The bones themselves were filled with scrofulous matter.

December 17th. He passed a restless night. This morning the pulse was 150.

Dec. 18th. He had a better night; but was restless since morning; and had disturbed the splint. There was a free discharge from the wound.

Dec. 19th. I was compelled to readjust the splint. The sutures were removed. The wound was looking healthy.

Dec. 20th. The child was low and feverish. The pulse was rapid; the countenance pinched; the position of limb was good. I could not learn that he had had a rigor.

Dec. 21st. Prostration was not so great. He had pain in the left elbow-joint, and was sick.

Dec. 22nd. Suppuration was copious from the wound. He had pain in the right knee as well as in the elbow.

Dec. 25th. He had a rigor whilst being dressed. The discharge from the wound was copious. From this date, he gradually sank, and died on January 4th, 1858, nineteen days after the operation.

Dissection twenty-four hours after death. The brain was healthy. The lungs were remarkably small in size. The apex of the left lung was studded with a few tubercular deposits in an unsoftened state. Small masses of purulent deposit were scattered throughout both lungs; their size varied from a millet-seed to that of a pea or bean. The heart was healthy. In the pericardium was a large quantity of clear serum. The liver was natural in size: its surface was sprinkled by numerous purulent deposits, of the size of split-peas; and deeply seated in the upper part of the right lobe was a deposit of the size of a hazel-nut, of a similar character. The remainder of the abdominal viscera were natural.

In the resected joint, the union of the flap in front was firm and satisfactory. The ends of the bones were in perfect apposition. On separating their surfaces, they were seen to be covered with imperfectly organised lymph. The textures adjacent were not infiltrated or in any way altered from the natural condition. The femoral vein was next traced carefully upwards from below the popliteal; it was healthy, until within a short distance from Poupart's ligament; at this point was located a plug of lymph, of two inches in extent. The plug imperfectly adhered to the coats of the vein, and was broken up in parts by bloody infiltration. The femoral and popliteal veins of the opposite limb were natural; so also were the iliacs and vena cava inferior.

The cavity of the left elbow-joint was filled up with a thin, dirty coloured pus. The left shoulder was healthy. The right shoulder had a quantity of pus within its cavity, whilst the right elbow was healthy. The right hip was filled with pus; the left was healthy. In the several joints occupied by pus, the cartilages and synovial membranes were unaffected.

Case III. G. A., aged 8, a delicate strumous looking boy, presented himself to my notice in March 1858, suffering from a long standing disease of the left knee.

History. Six years since, after a fall, the joint first began to give pain, and after much suffering in the earlier stages of his complaint, the malady subsided to its present condition.

Present State. His knee is now semiflexed, partially moveable. The tibia is thrown backwards, and the patella rests firmly on the outer condyle. There is general enlargement of the articular extremities, and the entire aspect of the joint presents a globular appearance. He suffers no pain on movement or on pressure; but the limb is useless, is wasted, and he walks on crutches, and has done so for years.

It was evident in this case that all acute disorder had subsided; consequently, any treatment contemplated was with the view of, if possible, remedying the inutility of the limb.

At the urgent request of the boy's friends, and after consultation with my colleagues, I determined to excise the joint, in the hope of obtaining a limb more useful than the one just described. Accordingly, on March 24th, under chloroform, I operated in the ordinary way. Thin slices of the femur and tibia were removed, altogether, rather less two inches, and the patella was likewise taken away. There was smart hæmorrhage, and two small vessels required ligature. The child seemed more than usually depressed after the operation, before

removal from the theatre, but I attributed this more especially to the chloroform.

In the afternoon following, the limb was carefully adjusted in the ordinary apparatus. Sickness had, however, set in soon after his removal to the ward, and continued more or less severely until the next day. Then it somewhat abated under the influence of remedies, but towards evening it was renewed with increased severity. After this there was no amendment, but the symptoms of depression increased, so that, despite all that was attempted for his benefit, he sank on the 27th, three days after the operation.

No *post mortem* examination was permitted.

Examination of the Sawn Articular Extremities. The synovial membrane was everywhere pulpy and degenerated, but the cartilages were only thinned, appearing in other respects healthy. Where the patella rested on the outer condyle, the cartilage had almost entirely disappeared. The tibia was completely thrown backwards behind the internal condyle.

Case iv. E. H., aged 30, a housemaid, of strumous appearance, was admitted under my care in the General Hospital, May 7th, 1858.

History. Eighteen months since she first experienced pain in the right knee, near the inner margin of the patella. The joint became weak, and the pain increased slowly in intensity, accompanied by some enlargement of the part. Finding that the disease was advancing, and that she was no longer able to pursue her employment, she sought admission into the Hospital.

Present State. The joint is greatly enlarged, all the bony prominences having disappeared. The integuments are discoloured, and there is an obscure sense of fluctuation conveyed to the fingers on manipulation. There is pain on firm pressure, but this is principally confined to the region over the head of the tibia. With all this, the limb is in a good position, and in one very favourable for anchylosis.

With this view, during the next four months, everything was done in the hope of arresting the progress of the disease. Once or twice collections of pus were evacuated in the muscles above and below the knee, and her general health continued satisfactory for some time. It was at length, however, evident that something more must be done; and, accordingly, on October 6th, five months after her admission, at her own request, I excised the joint in preference to amputation. The operation was accomplished in the ordinary way. The first incision gave exit to a large collection of pus, situated in the muscles around the joint, and there was also a large quantity in the joint itself, and in the popliteal space. The amount of bone removed measured about one inch and a quarter. The patella was likewise taken away. The hæmorrhage was inconsiderable, and but one vessel required a ligature. There was some sickness soon after the operation, but by the time the limb was adjusted, the patient had very fairly rallied from its effects.

Examination of the Sawn Extremities. The slice removed from the femur is three parts of an inch in thickness. The inner condyle has its articulating surface entirely denuded of cartilage, a slight gelatinous coating existing in one or two spots. The outer condyle is also denuded, with the exception of about a quarter of an inch posteriorly, where the cartilage is much attenuated. The slice from the tibia measured rather less than half an inch. The semilunar cartilages are totally destroyed, with the exception of a small portion behind the spine. The cut surfaces presented the usual appearances of spongy bone. In the slice from the tibia, the saw just passed below a softened portion. The compact layer of bone beneath the cartilages was almost entirely destroyed, and a good deal of new bone had been thrown out around the articular extremities. The synovial membrane was utterly gone. The crucial ligaments were entire, but imbedded in a pultaceous purulent mass. The patella had its cartilage destroyed, and the bone beneath was in a softened state.

For some days after the operation the patient did well. The wound suppurated, and her strength returned.

October 11th. Had a shivering fit; and two days afterwards a severe attack of erysipelas around the wound and up the thigh manifested itself.

Having recovered from this, on the 30th, without any preliminary fever, she broke out with confluent small-pox, notwithstanding the knee looked well, and suppurated healthily. There was great depression following the subsidence of the eruption; and the wound discharged most profusely. At the beginning of December she had night-sweats and cough, with purulent expectoration; and on the 22nd of this month she died, under the wasting influences of diseased lungs.

In the examination of the excised joint, there was found to be not the least attempt at bony union. Pus had burrowed its way in all directions, and had separated the periosteum for some little distance beyond the sawn extremities. These at their opposed surfaces were covered by a sloughy purulent membrane. There were no evidences of purulent absorption. The apices of both lungs contained large cavities, and there was abundant tubercular deposit scattered throughout the other parts of these organs.

Case v. C. C., aged 17, a dark-eyed, sallow complexioned Irish girl, was admitted under my care in the General Hospital, on July 30th, 1858.

History. About four years since, in a fall, she injured the left knee, and suffered for some time afterwards from pain and lameness. She went about, however, and did not experience great inconvenience until about three months before her admission; then she had constant pain, the joint became swollen, and she was unable to use it in the least degree.

Present State. The joint is greatly enlarged, rounded, and even with the surface, shiny and reddened. The limb reposes on its outer side, and is semiflexed. The least movement occasions intense agony, and there is evident fluctuation in the articular cavity. The patient's general health, owing to long continued pain, is very much reduced. She entreats that something may be done for her relief, but refuses, both by herself, and by her friends, to submit to amputation. After waiting, in the hope that her general health might improve, and finding that hectic was rapidly setting in, on the 19th of August I excised the knee under chloroform. On opening the joint, a pint of pus poured out, whilst there was a second collection in the bursa above the patella. Very thin sections, half an inch of the femur, and the same amount of the tibia, were removed. The patella was left. The superior internal articular artery alone required ligature. For some hours afterwards the prostration was very great, but towards evening reaction was fully established.

Examination of the Sawn Articular Extremities. The synovial membrane was everywhere thickened, and converted into a reddish fungus-like material. The cartilages on the femur, on the tibia, and the semilunar cartilages, were almost entirely destroyed, but the bone was scarcely penetrated by disease in any part. The crucial ligaments were utterly disorganized.

There was no drawback to the steady improvement of the health of this patient, after the operation, for the first two months. The wound progressed favourably, though the suppuration, as might be expected, was of an extreme character.

In November, some abscesses formed in the cellular membrane of the thigh and leg, and required free incisions for their relief; in their presence, however, the wound closed in.

At the end of three months the splints were removed, and the limbs simply supported by a roller. There was now great consolidation about the articular extremities, but no bony union.

At Christmas, four months after the operation, she was permitted to get up and about on crutches. There was unwieldy enlargement about the joint, and decided thickening of the femur.

In February 1859, the enlargement of the thigh had become more decided, and it was accompanied by a good deal of pain. After a time, some abscesses broke of their own accord, and sinuses resulted. Through these a probe could be passed on to the enlarged bone, but I was unable to detect any necrosed portions. She can now walk about fairly with the aid of a leather case and her crutch.

From this time, to a period occupied by the next three months, her progress varied but little. Sometimes she would suffer from the formation of fresh gatherings about the thigh, and require rest and attention, but the general character and power of the limb improved in all respects.

On June 15th, ten months from the operation, the following note was recorded. There is no shortening whatever of the limb, she can walk with facility, and requires only the aid of a stick or single crutch. The soft parts are somewhat swollen and thickened over the upper part of the tibia, and along the inner margin of the seat of incision, where are situated the apertures of one or two sinuses. The thigh bone, as high as the trochanter, is greatly enlarged, and there are the apertures of three or four sinuses, but no necrosed bone can be detected. There is slight movement allowed between the sawn extremities.

A week after this she left the Hospital.

Case vi. A. H., a labourer, aged 27, was admitted under my care on May 1st, 1859, suffering from long standing scrofulous disease of the right knee. He was pale and thin, being wasted from much pain; but otherwise he was in good health.

History. Eight years back, the disease originated in a blow. He was under surgical treatment for various periods during this time; and, about two years since, was under my care in the hospital. At that time, the use of issues, and absolute rest to the limb, sufficed to control the disease; and he was enabled to leave at the end of two months, free from pain; and to get about by the aid of crutches and a support for the knee. He remained well, with the good prospect of a stiff knee, for eighteen months. It then again became painful, and increased in size, so that, his health beginning to suffer, he determined to submit to amputation, and accordingly sought the hospital once again with this view.

On examination, the joint was observed to be evenly enlarged, all the bony prominences having disappeared, and an uniform whitish pulpy appearance being presented. The limb was straight; but the least movement of the joint, or pressure of the patella, occasioned acute pain.

May 18th. I excised the joint, in preference to amputation. The operation was accomplished in the customary manner, half an inch of the femur, and the same amount of the tibia, being sawn off, and the patella being likewise removed. There was rather abundant hæmorrhage, a large superior external articular artery requiring a ligature.

Examination of the Resected Parts. The excised parts presented an appearance of profound destruction of cartilage. The faces of the condyles, and the corresponding surfaces of the tibia, were hollowed out by the extension of mischief, and the bony structure adjacent was rendered of a spongy character. The under surface of the patella was similarly affected. There was no trace of the synovial membrane remaining. There was no collection of pus within the joint, but there was a large gathering of matter freed in the course of the incision by the side of the tibia.

For the first few days following he suffered from severe constitutional disturbance, and from a threatening of erysipelas. These drawbacks having subsided, he was doing well, when, on the 24th—six days after the operation—he was seized with alarming arterial hæmorrhage from the situation of the ligature on the superior external articular vessel, which had been thrown off. Before assistance could be rendered, he had lost nearly two pints of blood, and, but for a timely fainting, would in all probability have died, as it was night, and the occurrence was for a few moments unobserved by the attendants. Pressure on the femoral, at the pubic arch, happily sufficed to check any renewal of the bleeding; and for a few days he was most closely watched. However, under the liberal use of stimulants and abundant nourishment, he gradually revived in strength, whilst the wound closed in with marked rapidity. Some suppuration occurred about the situation of the patella, and required relief by an incision; but otherwise the progress of the case, though slow, was satisfactory. The limb was perfectly straight, and the union between the sawn extremities of a fibrous character.

After getting about the ward for some time on crutches, the joint being supported by a splint, he left for fresh air in the country, on September 29th, four months and a half after the operation.

Case vii. S. E., aged 13, a delicate strumous-looking child, of marked intelligence, was admitted under my care on July 27th, 1859, with long standing scrofulous disease of the right knee.

History. Two years and a half since, a fall for the first time injured the joint, leading to pain and swelling, and inability to bear weight in standing or walking. Twelve months since, he came under my care in the hospital. At this time the limb was flexed, and of no use. It was straightened under chloroform, and, by the aid of rest and careful bandaging, became so free from pain that he left able to bear his weight, and to get about without the aid of a crutch. However, twelve months passed by, and the knee becoming painful, he was again admitted.

Present State. The joint is very large, globular in shape, acutely painful to the touch, or on the least attempt at movement. It is semiflexed, and the limb above and below is greatly wasted. The child has a hectic appearance, and is much reduced in strength from long continued pain.

August 17th. Under chloroform, I excised the joint in the ordinary way. The operation was quickly accomplished, and there was no hæmorrhage of the least moment. The amount of bone removed altogether from the femur and tibia amounted to about three-quarters of an inch, the epiphysal junction in either bone being untouched. The patella was removed.

Appearances of the Sawn Extremities. The cartilages covering the condyles presented, in places, various stages of destruction, in some being only thinned, and in others entirely removed. The semilunar cartilages of the tibia were entirely gone, and in parts also the cartilages immediately covering the bone. The crucial ligaments were not greatly affected, their external surfaces being only somewhat softened by contiguous mischief. The bones, where sawn through, presented a perfectly healthy section, though the articular extremities were much enlarged from the effects of former disease. In many places, the bone, from which the cartilaginous covering had been entirely removed, was roughened; but in no instance did it appear to be softened. There was no appearance of synovial membrane left. Suppuration was commencing within the joint, but there was none in the textures around.

For two days the boy suffered a little constitutional disturbance. After this subsided, his progress was uninterrupted by any drawback. The wound suppurated and contracted, and the joint presented a solidifying appearance.

September 28th—six weeks after the operation. The wound is almost healed. The joint is becoming firm. The boy's health is excellent.

At the end of eight weeks, he was permitted to get up, and to move about with the aid of a single crutch and a small leather case. The wound was completely closed, and the boy possessed the most perfect power of raising the entire extremity, the bones having become firmly anchylosed.

[*To be continued.*]

DEODORISATION IN CARCINOMA UTERI.

By Thomas Skinner, M.D., Liverpool.

[*Communicated to the Liverpool Medical Society, November 3rd*, 1859.]

In perusing the number of the Journal for October 29th, I notice a report of a discussion at the Medical Society of London, on the "Deodorisation of Ulcers." I also notice that one of the members present, Dr. Mackenzie, has to a certain extent forestalled me by communicating to the Society the result of his observations in the use of *tar water* in the treatment of *foul ulcers*. I am fully aware that priority belongs to neither of us, as Bishop Berkeley believed in it as a panacea for most diseases (Berkeley's Works by Rev. G. N. Wright, vol. ii, p. 308, *et seq.*) It has also been highly spoken of by Romberg, Wetherfield, Alibert, Emery, Todd, Bateman, and many other authorities, for internal and external use in cutaneous and pulmonary affections, as well as in the treatment of *foul* and indolent ulcers. In the treatment of the last mentioned lesions, it has been extolled chiefly, if not entirely, for its *stimulant* properties, until Dr. Mackenzie's late allusion to it.

With these few preparatory remarks, I beg to draw the attention of my fellow associates to the claims of certain substances as deodorants, particularly tar water, in carcinoma uteri. In the month of June last, a most intelligent and old established practitioner in this town met me in consultation about a lady who is the subject of far advanced scirrhous cancer of the uterus. The cancerous deposition had then extended to the bladder and rectum, rendering the uterus perfectly immobile. The ulcerative process was so far advanced, that the index and middle fingers could be introduced into the cavity, and could be moved freely about. The ulceration also easily admitted Simpson's vaginal speculum, No. 4, an inch and a half in diameter. (This instrument was used twice, simply to apply a solution of the perchloride of iron to abate a temporary hæmorrhage.) The offensiveness of a cancerous discharge from so extensive a surface, and pent up in such a locality, may be more easily imagined than described. So tenacious and so indestructible were the odorous particles, that soap and chloride of lime failed to deodorise my fingers for hours, and my washhand-stand retained the effluvia for more than forty-eight hours, until I made a free use of McDougall's disinfecting powder, so deservedly praised by Professor Simpson (*Medical Times and Gazette*, Jan. 22, 1859, p. 80.) The smell was so disgusting to the patient, that she told me she thought "her inside must be like that of a putrid corpse." In such a case, an effectual, speedy, and safe deodorant was a desideratum, if it was not a *sine qua non*.

In order to save others the trouble of repeating my ex-

periments, I will briefly state the means I have tried, and their relative success.

1. *Condy's Disinfecting Fluid (purple).* This fluid, which is, I believe, a concentrated solution of the permanganate of potass, was used in the proportion of two drachms to a pint of water as a vaginal injection three times a day. The proportions were rapidly increased up to one fluid-ounce to a pint of water. The result was in every way satisfactory. The gentleman previously alluded to, digitally examined the patient with me a few days after it had been used, and the smell was very much lessened, as also the amount of the discharge. (At this period of my observations, a common pewter vaginal syringe was used, and I cannot but think that this accounts for the success being incomplete.) One great advantage in the use of the permanganate is, that it has no smell of its own, and that, being soluble, it may be used either in the form of a medicated pessary, or in that of an injection. Its lovely *mauve* colour renders it both fashionable and pleasing to our patients. From my experience of its use, I can confidently recommend it in the proportion of one fluid-ounce to a pint of water, as a deodorant in cancer of the uterus; a cupful to be used as an injection thrice daily, and the strength to be increased, if found necessary.

2. *Decoction of Daucus Carota or common carrot.* Being well aware from previous experience of the great value of a carrot poultice in deodorising cancerous and other bad smelling abrasions of the integumental surface, and, as the patient was complaining of lumbar and pelvic pain, with more or less irritation of the vagina, possibly produced by the permanganate, I ordered her to inject a warm and concentrated decoction of the common carrot. At the same time, the patient was ordered to the sea coast. Whether it was the change of air, or the carrot decoction, or both, I was informed by herself and friends, that the smell, pains, and irritation were very much lessened. Yet, *the* smell was not annihilated, and the patient began to tire of the heavy odour of the carrots, and the trouble of preparing the decoction; it was therefore discontinued. If hæmorrhage was to be feared, I would not recommend the *warm* decoction. I may as well mention that, while my patient was using the *decoctum carotæ*, she drank freely of new wort, a common domestic and excellent beverage for invalids who are the subjects of foul ulcers or ill-conditioned sores. (See *Medical Observations and Inquiries*, vol. iv, pp. 358-367.)

3. *Parisian Disinfecting Powder and Paste.* About this time, the powder and paste of MM. Corne and Demeaux were creating great excitement in Paris, so I determined to give them a fair trial. To the powder made with coal tar three parts, and sulphate of lime one hundred parts, was added enough of olive oil to form a paste of sufficient consistence for vaginal pessaries. The mass was divided into balls, which were dipped in the usual solution of wax, lard, and oil. They were made for me by Messrs. Clay and Abraham, of this town.

So far as deodorising and even lessening the amount of the discharge is concerned, the pessaries were certainly most effectual; but to the use of such means in the treatment of carcinoma uteri, there are insuperable objections; viz.:

a. The *coal* tar in itself is exceedingly disagreeable to the olfactory organs of females, however little it may affect those of M. Velpeau. This objection, however, may be waived by adopting *vegetable* instead of *coal* tar in forming the powder.

b. The discharge is absorbed by the sulphate of lime, which swells to some extent, sets hard, and becomes a source of considerable irritation.

c. As such medicated pessaries do *not* dissolve, they accumulate, until removed by a second party. On our first essay with the pessaries, I was called to my patient three days afterwards, and found to my amazement a nest of three of them, enlarged and hardened. To obviate this for the future, I ordered them to be threaded with a needle and thread in such a manner, that the patient might withdraw them herself every twenty-four hours. I found, however, that even with this plan they sometines split in two, and by doing so became a source of discomfort to the patient.

d. The surface of the ball comes first into contact with the discharge, and the plaster of Paris setting, prevents the interior of the ball from being of any use.

e. Applied as a powder, it is worse than useless, as it cakes or sets, and forms fragments which are very disagreeable to the patient, and exceedingly difficult of removal.

From my disappointment in the use of the *coal* tar disinfecting powder, I saw no reasonable hope of better success from the use of *vegetable* tar in its manufacture. I therefore concluded that the Parisian powder is impracticable, so far as the deodorisation of the discharge of carcinoma uteri is concerned.

4. *McDougall's Disinfecting Powder; Vegetable and Animal Charcoal, etc.* MM. Corne and Demeaux's powder having failed me in the treatment of carcinoma uteri, I have not tried the use of McDougall's disinfecting powder (Smith and McDougall's patent), nor of charcoal; nor of any other insoluble substance, however effectual they may be as deodorants; because I think that, if an effectual, speedy, and safe agent can be obtained, which is fluid or entirely soluble, it ought to be preferred.

5. *Chlorides of Zinc and Iron, etc.* The deodorant and useful properties of those substances are so familiar to all, that comment is unnecessary.

The same may be said of the

6. *Chlorates, Hypochlorites, and Hyposulphites;* none of which I have tried in this particular case, as I wished something superior to all of them. But let me add, that subsequent to the use of the Parisian powder, I did try the value of simple

7. *Metallic or Mineral and Vegetable Astringents;* such as the sulphates of alum and zinc, and the acetate of the latter metal, also solutions of tannin. Comparatively speaking, they were all more or less effectual in deodorising and lessening the discharge, but very much inferior as deodorants to the substances previously made use of. I may here just as well remark, that my patient was fortunately fond of variety; and, as may be seen, I gratified her taste, which gave me an excellent opportunity of making these and the following observations.

8. *Solution of Naphtha and Creasote.* This preparation is highly commended by Dr. Lionel Beale for preserving moist specimens for the microscope. As I had some of it made by myself, I gave it a trial upon a small scale; and it was so satisfactory, that I am induced to give the formula. The only objections to its general use are, the smell of creasote, and the length of time required to prepare it. It is as follows:—"Creasote, three drachms; wood naphtha, six ounces; distilled water, sixty-four ounces; chalk, as much as may be necessary. Mix first the naphtha and creasote; then add as much prepared chalk as may be sufficient to form a smooth thick paste; afterwards, add very gradually the water, and mix well in a mortar. Add two or three small lumps of camphor, and allow the mixture to stand in a lightly covered vessel for a fortnight or three weeks, with occasional stirring. Pour off the almost clear supernatant fluid, and filter it if necessary. Preserve it in well-corked or stoppered bottles." (*The Microscope in Clinical Medicine*, 1st ed., p. 87.) This preparation, when carefully made, is highly *antiseptic*—a property which cannot be said to be possessed by the powders or pastes of MM. Corne and Demeaux, if Mr. May's experiment can be considered as decisive. (Journal, Oct. 15th, 1859, p. 832.) I feel certain that, in hospital practice, such a preparation, variously diluted, and tar-water, would be found of great service as addendæ to the water-dressing of wounds and ulcers, possessing, as they do in a very high degree, deodorant and antiseptic, along with stimulating, astringent, and consequently cleansing and healing properties. In point of cleanliness, they are every way superior to the preparations of MM. Corne and Demeaux. For reasons already given, the naphtha and creasote solution is not so available in general practice.

9. *Solution of Lead and Creasote.* The following was attended with very good effect:—

℞ Plumbi acetatis ℥j; acidi acetici ℥ss; creasoti ♏x. Misce, et dein adde gradatim, misturæ camphoræ ℥j. Solve.

Sig. A teacupful for injection twice or thrice daily.

The creasote may be increased to thirty minims, if thought necessary. Creasote dissolves the acetates, the acetate of silver excepted; and is itself freely soluble in acetic acid. The acetic acid and the camphor serve to mask the odour of the creasote; and a few drops of any essential oil may be added for the same purpose, with the best effect, as creasote is soluble in most of them.

10. *Iodine.* I have not yet had an opportunity of trying the effects of iodine, as recommended by M. Marchal (de Calvi) to the Academy of Medicine of Paris, on August 8th last. Its undeniably powerful antiseptic properties, as proved by M. Duroy, and its being easily soluble, either in the form of a lotion for injection, or in the form of an ointment as a pessary, are sufficient reasons, in my estimation, for giving it a fair trial as a deodorant in carcinoma uteri, and other affections attended with offensive discharges.

11. *Tar-Water. Aqua Picis Liquidæ, D.* While reading a report of the discussion on deodorisation between MM. Renault and Velpeau lately, I observed that it was merely a matter of economy and of olfactory preference, which made the difference between the use of coal and vegetable tar in the manufacture of the disinfecting powder; and, as I was much inclined to believe that the tar, or one or more of its active principles, is the essential ingredient, I determined to try the effect of the injection of tar-water. I was strengthened in this idea by having read the eulogiums passed upon it by Bishop Berkeley and others, and in the pages of the *Medical Commentaries*, alluded to by Dr. Mackenzie at the meeting of the Medical Society of London, on October 24th.

My patient has now used it undiluted for a month or more, and is likely to continue its use, as its beneficial effects have far surpassed my most sanguine expectations. The discharge has much decreased, and is for the present at a minimum. The foul smell entirely disappeared on the first day she used the tar-water as an injection; and, in its stead, the apartment, the bed, and the patient, have a mild and really refreshing aroma of a shipbuilder's yard in the distance. The patient and her friends have become so accustomed to this slight, and rather agreeable odour, that they are not now sensible of its existence; and they, as well as myself, can bear evidence that none of the many measures adopted for the purpose of deodorising the discharge, have been so eminently successful as the simple injection of tar-water.

Formula for Tar-Water. Tar-water was at one time officinal in the Dublin *Pharmacopœia;* but, in the last edition, the formula has been omitted:—"*Aqua Picis Liquidæ, D.* Tar, lb. j; water, cong. j; mix, stirring with a stick for a quarter of an hour; as soon as the tar has subsided, strain the liquor, and keep it in well closed jars." (Neligan's *Materia Medica*, 3rd ed., p. 374.) Pereira gives a different formula:—"Tar, Oij; water, cong. j (wine measure)"; otherwise the same as Neligan. My patient has always used the formula recommended by Neligan.

Properties. Tar-water ought to be perfectly clear, and of a pale sherry or amber colour. It has a bitter, resinous, and considerably acid taste; and a slightly creasotish, but rather agreeable empyreumatic odour. It reddens litmus-paper, and has a density of about 1·005. "The volatile oil in tar-water is partly held in solution by acetic acid, which, as is well known, dissolves creasote. It" (tar-water) "consists of water holding in solution acetic acid and pyrogenous oil and resin." (Pereira's *Materia Medica*, p. 1205.) The late Professor Royle says, that tar-water contains "creasote and other matters in solution". (*Manual of Materia Medica*, p. 647.)

Mode of Administration. By the aid of Higginson's invaluable syringe, a tepid solution of soap and water is first to be injected; and, immediately thereafter, a breakfast-cupful or more of undiluted tar-water. This should be done twice a day, if the patient's strength will admit: hitherto, a more frequent use of it has not been required. It is necessary that the tar-water should come into contact with the ulcerated surfaces: therefore, the recumbent posture is preferable, and a long vaginal nozzle to the syringe is of advantage. If there is an intelligent, handy nurse in attendance, and the ulcerated cavity is extensive, and its lips lobulated and lapping over each other, a piece of lint saturated in tar-water, with a piece of tape or thread attached to it, may be inserted within the cavity, or the point of the nozzle may be directed into the ulcerated cavity before injecting.

Lastly, as important in itself, and as bearing upon the action of many of the substances alluded to, I would briefly call to remembrance the well known properties of

12. *Creasote*, which literally signifies flesh-preserver (from κρέας, flesh, and σώζω, I preserve). It is the most important of the products obtained from wood-tar by Reichenbach, in 1830. It dissolves several salts, particularly the *acetates*, the acetate of silver excepted, which it reduces. It is itself completely soluble in acetic acid, wood naphtha, and alcohol, in most volatile oils, in the alkaline solutions, and in from eighty to one hundred parts of water. Like the chlorides of iron, mercury, zinc, and other caustics, it is a powerful coagulator of albumen; but, unlike these agents, the insoluble compound which it forms with the tissues *resists putrefaction*. In fact, it is the best known antiseptic; consequently, it is a powerful deodorant. Finlay Dun says: "It is believed to have been the essential agent used in embalming the Egyptian mummies. It is extensively employed in preparing various dried meats, and might be used for preparing subjects for dissection, by dissolving it in acetic acid, and injecting the solution into the veins. . . . Externally, it acts beneficially as a stimulant and astringent, an antiputrescent and deodoriser." (*Veterinary Materia Medica*, pp. 199, 200.) Of the use of creasote as a deodorant in carcinoma uteri, I believe that Dr. Copland was among the first who employed it. (*Cyclopædia of Practical Medicine*, vol. iii, p. 1283.)

In connexion with the deodorising property of creasote, it is interesting to observe that *carbolic acid*, which is undoubtedly the essential ingredient in Smith and McDougall's patent disinfecting powder, is supposed by M. Laurent to be really identical with *creasote*. (Royle's *Materia Medica*, p. 712.) The late Professor Gregory arrived at the same conclusion as M. Laurent, and about the same time. Professor Gregory stated to the Royal Society of Edinburgh: "If these two compounds be not identical, they are at least very closely connected, and in all probability contain the same radical. It is possible that creasote may be a definite compound of carbolic acid with some allied body. At all events, *it is very remarkable that these two compounds, described as different, should agree in density, taste, smell, antiseptic property, power of combining with bases, power of dissolving resins, indigo, etc., and finally, in composition*, although probably perfectly pure creasote has not yet been analysed." (*Edinburgh Monthly Journal*, 1845, page 811.) Cooley, speaking of commercial creasote, says:—"The fluid sold in the shops for creasote is a mixture of creasote, picamar, and the light oil of tar; in many cases, it is little else than impure carbolic acid, with scarcely a trace of creasote.' (*Cyclopædia of Practical Receipts*, 3rd ed., 1856, p. 665.)

It would appear from the above statements, that, to the best of our knowledge, the disinfecting agent in even Smith and McDougall's powder is none other than creasote, or its analogue carbolic acid; and, as carbolic acid is the acid portion of the volatile oil which is obtained by the distillation of *coal* tar (*Royle*, p. 712), I make no doubt that creasote or carbolic acid is the active ingredient in the powder and paste of MM. Corne and Demeaux, as prepared from *coal* tar. Creasote is doubtless the active ingredient in the powder and paste prepared from *wood* tar. There can also be no doubt that creasote is the active ingredient in woodsoot (*fuligo ligni*) and its preparations, which are so highly extolled by the Dublin and continental physicians. (*Neligan*, 3rd ed., p. 35; *Pereira*, 3rd ed., foot-note to page 2014. See also an interesting case of the successful external application of the *decoctum fuliginis*, in the case of a severe burn, by Dr. Ebers of Bourdeaux, in the *Edinburgh Monthly Journal* for 1841, p. 755.) I feel much inclined to try the *decoctum fuliginis* of the Dublin physicians as a deodorant in *carcinoma uteri*, or the *tinctura fuliginis*, sufficiently diluted with water. For the best account of creasote, I beg to refer to Dr. Cormack's Harveian prize essay for 1836.

The *modus operandi* of creasote, or any of the substances spoken of in this paper as antiseptics or deodorants, I have purposely avoided, as I consider the subject of too speculative a nature to serve any practical purpose.

Summary. From the foregoing experiments and observations, I am of opinion—

1. That creasote, or its analogue carbolic acid, or some such empyreumatic product, is the active ingredient in the disinfecting powders of MM. Corne and Demeaux, of Messrs. Smith and McDougall's patent, and of the majority of our best disinfectants which smell of or contain such ingredients.

2. That, as the powder of MM. Corne and Demeaux is something more than insoluble; that, as it sets and becomes hard, and is otherwise objectionable—its use, however effectual as a deodorant, is impracticable so far as carcinoma uteri is concerned.

3. That in the treatment of cancerous ulceration of the uterus, a fluid or soluble deodorant is much to be preferred.

4. That the order in which I rate the various liquid and soluble deodorants I have drawn attention to is as follows:—

a. Tar-water (*Aqua Picis Liquidæ, D.*)

b. Condy's disinfecting fluid (purple), one ounce to the pint; or the permanganate of potass as a vaginal pessary of two drachms, from ten grains to a scruple in each.

c. Solutions of creasote:—the lead and creasote (No. 9); the naphtha and creasote (No. 8); or vaginal pessaries of two drachms, from five to ten minims of creasote and ten grains of camphor in each.

d. Solutions of the chlorides, chlorates, hypochlorites, and hyposulphites.

e. Metallic or mineral and vegetable astringents.

f. Decoction of the *Daucus Carota*, or common carrot, particularly if any of the others should prove irritating, and an emollient requisite.

In conclusion, I am perfectly well aware that any number of observations, made in the conduct of a single case, cannot be regarded as sufficient data on which to establish the value of tar-water or any other substance as a deodorant in carcinoma uteri; but, in *such a case as the one I have given*, any means attended with success deserve consideration.

CHEMICAL, PHYSIOLOGICAL, AND PRACTICAL CONSIDERATIONS, IN THE TREATMENT OF PHTHISIS.

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[*Read before the Western Medical Society.*]

A physiological inquiry of great extent, in which I have been for some years engaged, and which in part appears in the *Philosophical Transactions* for this year, has led me to closely examine the chemico-physiological hypotheses of Baron Liebig on the functions of respiration and nutrition, and the basis upon which, in his opinion, all correct practice must be based. The result has been profitable to myself, and has led me to believe that important guides to practice have been found, and may ultimately be multiplied, both in reference to phthisis and to general disease. As the blind administration of remedies is usually profitless, in reference to the advance of science, I venture to hope that the following paper may afford some matter for profitable reflection.

In every case of chronic phthisis, we have to regard the state of the lungs, with the effect of the interference with their functions; the special symptoms, and the state of the general system. In many cases, the intensity of all these so corresponds, that from one we may predict the other; and these are perhaps the purer forms of the disease; but in many there is no correspondence between any of them. Thus a person with all the evidences of a broken system, leading to the inference that it is due to phthisis, has no deposit of tubercle, and may not even have the earlier condition of lessened vesicular action, although that is unlikely; whilst, on the other hand, the system is to all appearance healthy, and, on examination, there is found extensive mischief, and even a cavity in one of the lungs. Again, it often happens that the irritable cough and frequent slight hæmoptysis, so common as symptoms in most cases of phthisis, are accompanied by very slight or even no lung-mischief; whilst, in cases of extensive disease of the lungs, there is scarcely any noticeable complaint of any kind. These various facts are daily exemplified at the hospital, and become so impressed upon the mind, that in no case presenting itself do I dare to form an opinion without first examining the chest; and constantly have I found phthisis where none was suspected, or not found it where I thought it was certainly present. The lesson which I wish to draw from this great want of uniformity in the relation between the disease of the lungs, the symptoms, and the system, is, that phthisis is not one, but, so to speak, many diseases, and requires not one, but many modes of treatment. A belief in this fact must, I think, lie at the foundation of all improvement of treatment.

In reference to the lungs, when tubercle is deposited, we can have no doubt but that some parts of those organs have lost their power of action; and in that earlier condition, in which the vesicular murmur is lessened, the same result is quite evident to my mind. What, then, are the evils which result from this state of things? In a state of health, I can inspire two hundred and eighty cubic inches of air beyond that large amount which remains in the lungs after the most complete expiration; but, in ordinary respiration, I only inspire about thirty cubic inches at an inspiration; and even with the most violent exercise, I cannot inspire more than one hundred cubic inches at each inspiration. Hence it may appear that the lungs are much more capacious than is really required for the due performance of their functions; and this inference seems to be supported by the fact that, in cases of acute pleurisy of one side, with hydrothorax, the other lung remaining sound, all the ordinary processes of nutrition and growth proceed with something like their accustomed order. Such, again, may be inferred from those numerous cases of tuberculosis of the lung in which there are circumscribed deposits even in both lungs, and which exist for years without injury to the individual. But, whilst admitting that Nature has given us a superabundance of lung-surface, in order to be prepared against the inroads of such diseases, we must not hastily come to this conclusion. The action of the oxygen in respiration probably does not, at least in great part, take place in the air-cells, or indeed in any part of the lungs; but it must be absorbed and conveyed by the blood to the tissues of the body; and in the tissues is doubtless the chief union of carbon and oxygen. Hence are required two circumstances: first, extent of absorbing surface; and second, duration of contact of air with the absorbing membrane. Whatever lessens one or both, must lessen the influence of the respiratory process. There can be no doubt, therefore, that whilst only so small a quantity of air is inspired at an ordinary inspiration as thirty cubic inches, or one-ninth of that which might be inspired, it is distributed to every part of the immense network of the lungs, and in every part the absorption and elimination of gases and vapours proceed. In the early condition of diminished vesicular action—a condition which is more or less general over one or both lung—there will be lessened absorption of oxygen, and lessened elimination of carbonic acid, vapour, and heat. When there is deposition of tubercle, there will also be a more or less complete exclusion of the blood from that part, and thereby an arrest of all the changes just mentioned? What, then, is the result?

It is a common saying, that deficient respiration leads to, or at least is connected with, deficient assimilation and nutrition; but much more precision of ideas is required than is commonly attained. We may perceive, on reflection, that the amount of chemical change proceeding in the body will vary with the amount of vital action, whether in the transformation of nutritive material, or in the destruction of tissue, or, in other words, with the wants of the system; and this chemical change is in great part dependent upon the respiratory function. In this sense, the respiratory function is subservient—that is, it obeys the call of the vital action; but there is another sense in which it must be regarded as exciting and controlling vital action by means of the oxygen which it furnishes, and which, being introduced, excites or increases vital action. In illustration of the former, we may cite the action of the cereals, milk, and sugar, which excite the respiratory function, and particularly that of exertion, which is the most powerful agent known; whilst, in reference to the latter, it may be stated that the respiration increases as the density and coldness of the air increase (apart from the influence of cold upon the body), and with increased voluntary depth or frequency of respiration, the body being at the same time at rest. The curious fact, that a given degree of exertion in two different temperatures or seasons is accompanied by different amounts of respiration, illustrates both, but chiefly the former.

On the latter theory we explain the lessened amount of vital action in phthisis, accompanying the lessened vesicular action and diminished amount of air inspired, quite as rationally as by that which assumes that the latter circumstances are due to the lessened wants of the system. But Liebig has carried this further, and has inferred, because there is wasting in the disease, that there is a hyperoxygenation of the blood, and, indeed, that the prime evil is this superoxygenation. The highly oxygenised products of secretion—as, for example, the acids passing from the system—are regarded by some as proofs of the truthfulness of this opinion. Rokitansky has made use of this in his doctrine of fibrine-crases of the blood in phthisis, stating that the fibrine of the blood is expended in the formation of the tubercle; but he has seen good cause to induce him to give up this doctrine of the crases. This doctrine of hyper- or hypo-oxygenation is of great moment in treatment, since, if there be hyperoxygenation, increase of respiration is contra-indicated; but if there be hypo-oxygenation, as is assumed by Dr. Churchill in his doctrine of the value of the hypophosphites, then we are justified in our directions as to the increase of exertion in the open air. Here, again, we are reminded of diversity in the nature of phthisis; and whilst we must admit that, in the majority of cases, there is hypo-oxygenation, in some, perhaps the more acute, and probably those in which the disease is more advanced than the system indicates, there may be hyper-oxygenation.

The importance of this question, at this stage of the inquiry, is as to the direct effect upon the functions of the blood. One great function is the elimination of carbonic acid. It is evident that, wherever the union of oxygen and carbon occurs, and the most so if it be in the intimate structure of the tissues, the removal of it by the blood must be by a temporary combination of it with a base, or absorption of it by the blood as a fluid, and its subsequent discharge at the right time and place. Both actions must be temporary and repeated, and be due to the aid of other agencies. It cannot be physically accounted for by the

faculty of absorption by a fluid alone, although it has been proved that with soda there is greater capacity to absorb carbonic acid than with any other; and, in reference to the other alternative, Liebig has stated that the base is soda; and that, when the carbonic acid joins the base, it discharges the phosphoric acid. The subsequent discharge of the carbonic acid in the lungs is due chiefly to the diffusion of gases, and its rapidity is believed to vary inversely as the quantity of carbonic acid existing in the air in the air-cells.

Hence it is evident that the process of oxygenation and depuration—and thereby, indeed, of all the vital changes—depends upon the due relation between the acid and the alkali in the blood, and their due interchanges; and, in order to show the paramount importance of this mode of studying phthisis, I need only to quote the remarks of Liebig; viz., "that the law which regulates the dependence of the quality and functions of the blood on the nature and amount of its incombustible elements, is the foundation-stone of medicine and physiology. This only can make medicine a rational science." This is a view to which I attach the utmost value; but, as it is impossible to discuss it largely on this occasion, I shall only mention two circumstances as bases for treatment. It is essential that there be free alkali in the blood, so that the general quality of that fluid shall be slightly alkaline, since otherwise the iron could not be held in solution, conversion of acids cannot occur, the albumen would tend to coagulation, and the blood would transude through the vessels. When we recollect the quantity of acid which we take directly, and the amount which is formed indirectly from food, and carried into the blood, we readily see how powerful must be the antagonism of these two agents in the blood, and that, at numerous parts of the mass, there will be temporarily (and particularly during digestion) an excess of free acid, rendering such parts unfit for the oxygenating process. Normally this acid, if uncombined, passes off quickly by the secretions; and if combined with a base, it is further oxidised, and is resolved into carbonic acid, and thereby the due balance is restored. But if there be deficient oxygen, or if the acid is produced in excess, or the secretive functions are disturbed, the blood remains deteriorated. In this way we account for excessive acidity of the blood. Again, whilst an alkali is essential to the process of combustion, an acid is equally essential to the formative process; and therefore the muscular fluid, as indeed the fluid in every tissue, has an acid reaction. If, therefore, there be a deficiency in this acid, whether by excessive excretion of the phosphoric acid, or deficient supply of the phosphoric or hydrochloric acids, the formative process is retarded, and waste will follow.

It is therefore true that excessive waste will occur from two different causes; viz., from excess of acid and excess of alkali in the system; and that each, perhaps, is equally injurious. Now, we know that acids and alkalies constitute the great part—indeed, on reflection, we might say almost all—of the remedies in phthisis, as, indeed, in most diseases; and by practice we attain to a sort of undefined notion as to the cases in which they are respectively applicable. The difficulty is to determine with accuracy these respective states. In reference to the acid state of the blood, I think we may always affirm that unusual acidity of the excretions (not due to local states of disease of the excreting organs) indicates an excess of free acid in the blood; and, in phthisis, I am disposed to consider the state of the skin-excretion as the best indication of this state of things. If, in such cases, I find that the perspiration has a sour odour (and the number of such cases is legion), the administration of a combination of the carbonates of soda and potass, say fifteen or twenty grains of each combined, or of the acetate of ammonia, thrice a day, is followed by the happiest results; and the measure of the effect is still the state of the perspiration. This immediately tends to increase the oxygenating process, but it does not of necessity remove that state of assimilation by which an undue amount of acid is thrown into the blood (assuming that, on inquiry, the excess of acid is owing to that circumstance); and hence a reduction in the starchy and saccharine food, and the invigoration of the system by change of air, etc., must be added. The amount of perspiration does not guide us in this matter; for in many cases, with excess of acid, there is profuse sweating; and with profuse sweating we are accustomed to associate acid in our treatment, yet, in such cases, the proper administration of the alkali tends to remove this excess of perspiration. I have recently had a case of early phthisis under my care, in which there was a constant excessive elimination of acid by the skin, and which, without other symptoms than excessive and general exhaustion and wasting, did not progress satisfactorily during three or four months. Under the influence of the combination of potass and soda, he had a very profuse sweating, accompanied by an exceedingly acid and acrid odour; and obtained immediate and almost marvellous relief. The following is a short account of this case:—

J. E., a young single man, aged 20, engaged in a grocer's shop in the country, had complained for three months of bad appetite, with brown tongue, foul breath, and slight emaciation. There was slight hæmoptysis occasionally, with slight dyspnœa. There was scarcely any cough, but the throat had been sore from the commencement of his disease. The general expression of the symptoms was nervous exhaustion and muscular debility. The chest presented no signs of disease, except the slightest shade of dulness on percussion, and lessened respiration on the left side.

On August 21st, he began to take iron, with a mineral acid and quina. Cod-liver oil was added on August 28th. In September, he continued in the same state, but with a little increase of cough and debility. In October, the cough continued, but he felt a little general improvement. There was also a little pain in the left breast. His state was becoming more anæmie; and the iron, being intermitted for a time, was renewed in November. During all this period he took out-of-door exercise, used salt and water ablutions; and was directed to take milk and other nutritive kinds of food at short intervals.

Thus three months passed away, without any visible improvement; and the progress of the lung-disease appeared imminent. At the end of November, however, he had a most profuse sweating during four nights, in frosty weather, accompanied by an exceedingly sour and acrid odour, which appeared to be the crisis of his condition; for, under the influence of bicarbonate of potass and gentian, he improved most rapidly, and the increase of perspiration, with its acid state, ceased in December. Throughout January he continued to improve, and became again cheerful, active, and strong; and the cod-liver oil being again prescribed at the beginning of February (it having disagreed with him in the early part of his attack), caused so much improvement in a fortnight, that he was led to look upon it as the principal means of his restoration to health. I cannot but think that, if the alkaline treatment had been begun earlier, we should have been spared some anxiety. The case shows well the peculiar condition of blood under discussion, the efficacy of the remedy, and the different action of the oil under the two conditions.

It is in this class of cases that I believe fats to be the most beneficial, if their administration is preceded and accompanied by the administration of these alkalies. There can be no doubt that the administration of starch tends largely to increase the acidity of the blood; and there is reason to believe that the action of fats (the other common hydrocarbonaceous material) tends in the contrary direction—a belief based upon the physiological action of fat upon the respiration, the influence of fat over oxygenation, its beneficial action in cold climates, and its influence under the conditions now being discussed. Hence I think that the state of the perspiration offers an important guide for us in the administration of alkalies and fats. A similar remark may also be made in reference to the action of numerous nitrogenous substances over the respiratory functions; for my experiments have proved that they have this action, and also that it is an indirect one by influencing the rapidity of the oxygenating process, and not a direct one by supplying carbon. As I have recently discussed these subjects elsewhere (*Philosophical Transactions*, 1859; *Philosophical Magazine*, December 1859; *Dublin Medical Quarterly Journal*, Feb. 1860), I shall not enter into them here, except in reference to one which, both from its power and its universal employment, should be better understood; viz., tea. We do not take tea without other food, except it be after the principal meal of the day, when the system is still replete with food; that is to say, we do not take it at the period when the blood is unusually alkaline, but when it abounds in free acids. Its action is rapid, and so powerful that a maximum increase of one-fourth or one-fifth of the whole quantity of carbonic acid exhaled is obtained is less than half an hour; and it has so accumulative an action, that twenty-five grains, taken every quarter of an hour, gave an excess of two hundred grains of carbonic acid within about one hour—a quantity of carbon much greater than it contained. Hence it has a most powerful indirect influence in promoting oxygenation, and is especially fitted for the condition in which there is a disposition to excess of free acid. I am desirous to press this upon your attention; for I believe that, in such cases, tea is our best and most certain medicine. I have also found it of great value in cases of night perspiration, when a large breakfast-

cup is taken cold in the night—of greater value far than any other remedy, except the removal of too much bedding, or warmth, or damp. The detection of the exudation of the blood, in which there is an excess of free alkali, is rather by negative than positive indications; but when there is wasting, languor, defective appetite and assimilation, soft and perspiring skin, and no excess of acid in the urine or perspiration, we have the indications of its existence. This is a condition which prevails in hot weather and climates, and one on which the daministration of phosphoric as well as the vegetable acids is of great avail. Fat is commonly less indicated, and such remedies as tea may be injurious by increasing the waste. Cold bathing with salt and water is of great value in both classes of cases, but especially the latter; and the preparations of iron in cases of anæmia are then also much more indicated, since the excess of alkali promotes their solution, and permits a larger amount to be collected and retained in the blood. Milk is a food which I advise to be taken at frequent intervals in the day, and especially in the early morning, and is in a degree applicable to both these states of the blood; since, whilst it has a free alkali and albumen on the one hand, it has fat and phosphates on the other. I believe, however, that skimmed milk, or milk made sour, is much more fitted than new milk for cases in which there is no excess of acid; and it will be found to be better borne by the patients. Milk has a direct action, by supplying plastic and heat-forming materials; and an indirect one by its casein, in promoting assimilation. I also take the opportunity of saying that we have been too much led away from the use of milk and cream in supplying fat to the system, by the habit of administering separated oils; and I think it is easily capable of proof that the combination of the oil in a molecular state with the other components of the milk renders it far more assimilable than any separated fat can be, and especially a fat administered alone; that is, apart from the nitrogenous substances which I have proved to be necessary for its assimilation.

It will, I fear, be thought that I have thus taken too chemical a view of the treatment of phthisis; but I believe that it is only in this way that we can rationally explain the results of our treatment, and be led to devise new plans upon sound principles. There can be no doubt that, whilst we have gained much practical knowledge in the treatment of this disease, it has been shown that almost all plans have their admirers, and are therefore in a degree beneficial. We have thus been groping in the dark; and it is only by dividing the cases into classes, with different pathological or physiological indications, and when we can distinguish those classes, that we may hope to show in what manner so much diversity of treatment has been equally beneficial. This view has also the merit of regarding phthisis as a disease to be treated upon the recognised principles of treatment of any disease with its constitutional indications; and the sooner we cease to regard it as a specific disease, or a disease *sui generis*, the sooner we shall be on the road to improvement in our art. If, in cases of general debility, there be a diminution in the respiratory process, by reason of the lessened amount of air inspired and the lessened interchanges of gases, they only differ from the constitutional conditions of phthisis in degree, and not in kind. In the former, the defect is general over the whole lung-surface; whilst, in the latter, there is added a local cause, which arrests the process altogether at those points. The prognosis differs; but the immediate cause of the defective nutrition is essentially the same, varying only in degree. The general and even the special treatment required in the two conditions in nowise differs, except in degree; for in both alike we must seek to increase the amount of respiration. We practically acknowledge this when we give the direction to do everything which is commonly known to improve the general health; and the diet, exercise, and medicines employed, are common to both conditions. From the point of view in which I have been accustomed to regard phthisis for some years, I have considered that voluntary deep inspirations were well fitted as adjuncts to treatment; and this, both because with greater amount of air inspired even voluntarily there is increase in the chemical changes which follow, and because with a lessened degree of distension and vital action proceeding in the air-cells there must be a progressive tendency to a degradation of their structure, and, as I believe, to the filling up of their cavities by epithelium, or the earliest state of tubercle in these organs. The advantage of this method has for advocates no less authority than Lehmann, who, on physiological grounds, commends it in cases of deficient respiration, in bronchitis; and Piorry, who has recently affirmed, as may be seen by an extract in the *Medical Times* of January 5th, 1859, that by this means he has been able to cause a large amount of expansion in cases where *deposits* even had heretofore prevented it. Dr. Mühry, a German writer, who has recently treated of climate, seasons, and elevation, over the degrees of expansion of the lungs, has supported the view that expansion of the air-cells is a desideratum of great importance. Hence, in addition to my own affirmation that in numerous cases of early phthisis I have been able to increase the existing diminished vital capacity of the lungs, I think there is evidence to convince the minds of those who regarded my plan with distrust, that there is good reason for its adoption, and that it is not too mechanical to be excluded from physiological and even pathological employment. The increase in the function of the lungs, and the prevention of that tendency to deficient expansion of the air-cells, both alike tend to prevent the further deposition of tubercle; and if, from various reasons, they should fail, the present unsatisfactory result of all kinds of treatment leaves us nothing to regret. I cannot but attach great importance to both of these objects; viz., the increase in the vital actions of the vesicles, and their due expansion and expansibility; and both, in fact, are accomplished in our ordinary directions for violent exercise for the maintenance of health.

I cannot avoid the expression of my conviction that in many cases, owing to the deficiency of vital action, whilst the appetite for food is not materially lessened, the system becomes overburdened with ill-digested material, tending to the accumulation of carbon in the blood, and materially impeding the respiratory process. In such cases, diminution of food, with increase in the action of the liver and bowels, do very much to relieve the oppression of the breathing, and to aid in the work of increasing the expansibility of the air-vesicles. In such cases, alcohols are directly contraindicated; and, indeed, in almost all cases of phthisis (excepting, perhaps, those in which the depressed action of the heart is a marked feature), the advantage of the employent of alcohols is apart from, and in spite of, the alcohol.

I do not propose to enter more at length into the inquiry, and shall conclude my observations with one or two remarks of less general application.

It is difficult, in cases of advanced phthisis, to maintain the proper temperature of the body; since, on the one hand, there being less vital action, there is less production of heat; and, on the other, the skin being commonly very active, there is greater waste of heat. Cold perspirations are very common; and I noticed, in some observations which I made hourly during the day and night, that in a very advanced case, the temperature of the breath was so reduced at about 5 A.M., during sleep, as to give a sensation of coldness to my hand. It is in this sense that profuse perspiration is apt to assume its importance. It is evident that, as the fluid perspiration becomes converted into vapour on its exposure to the air, it absorbs a large amount of heat, which then becomes latent, and which, being abstracted from the skin, reduces the temperature of the body. The larger the amount of the perspiration, and the drier and warmer the air, so much more active will be the process of evaporation, and by so much will be the tendency to lower the temperature of the body to that of the surrounding medium. This is a source of danger even in health, when the heat-forming function is in full activity; and is the most common cause of colds. In phthisis, it cannot be obviated by seeking to increase the production of heat, since we cannot greatly increase the chemical transformations; and hence our endeavour should be to lessen the waste of heat. No doubt this may be effected by clothing in a degree beyond our expectations, as is seen in the advantage in this respect which many of the Asiatic nations derive from the use of cloth in even the hottest weather, since the process of evaporation if too active must be thus retarded. It may also be obviated by any remedy which will lessen the activity of the skin-processes, as, for example, by the rapid application of cold salt water; but the most efficacious plan, probably, is inunction of oil. When the skin is covered with thick ointment, we know that parasites die; and when the spiracles of an insect are covered with a thin layer of oil, they cannot act; and there can be no doubt that the application of oil must lessen the process of evaporation, and in a great degree that of perspiration also. It is possible that the oil may in a very small degree be absorbed, and supply heat-forming materials; but its chief action is that of lessening waste of heat, and therefore the necessity for vital action. This is at least my explanation of the well known value of inunction, and I certainly recommend strongly its employment for this purpose. The disease becomes, so to speak, disease of the skin under these conditions; and that organ is a greater

source of immediate danger than the lungs. Indeed, this condition is very common, apart from phthisis, and produces or attends a state of languor, feebleness, defective appetite, mental depression, and general exhaustion.

It may seem out of place to offer a remark as to the best method of relieving the cough in cases of phthisis; but the great success which has attended the small and repeated doses of morphia encourages me to mention it. I believe no other substance is so certain and uniform in its action, and so deserving of confidence. Regarding the cough as sympathetic, when not directly induced by local mischief in the pharynx, I never administer expectorants, but give simply one-sixteenth of a grain of morphia in water, or in two ounces of acacia mixture, four to six times in the day and night. It is a dose which may be repeated in half an hour without injury. It seldom affects the head or the bowels; and, when repeated, I venture to say, will always allay cough, and give sleep. I use no other remedy for the cough, whether in phthisis or bronchitis, and could adduce some thousands of cases to prove the utility of the plan.

6, Queen Anne Street, W.

Notes of Lettsomian Lectures

ON

CERTAIN POINTS CONNECTED WITH DIABETES.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON.

By FREDERICK WM. PAVY, M.D., F.R.C.P., Lecturer on Physiology at Guy's Hospital.

Lecture I.

[*Delivered November 23rd*, 1859.]

In 1848, M. Claude Bernard stated that he had discovered that the liver had a function very different from that usually attributed to it—that, in short, it had a glucogenic power, or the property of forming sugar. This assertion startled physiologists; and now, after it has obtained almost universal credence, the theory of M. Bernard appears in danger of being completely overturned. But, considering the high scientific position of M. Bernard, and the undoubted exactitude with which his experiments were conducted, it is necessary for all who inquire into the same subject to take care that they are not deceived.

The object of the present lectures is first to give a general account of the physiology of the sugar-formation in the animal body.

Sugar exists in the animal body in the form of glucose or grape-sugar; and, fortunately, the chemical tests for it are not only numerous but trustworthy.

A very common method used for detecting sugar is Moore's or the liquor potassæ test. If a fluid containing glucose be boiled with liquor potassæ, the colour of the fluid is changed to sherry or darkish brown. Although this test is useful in the wards of a hospital, it is almost completely useless physiologically; for colour is not to be depended on in strict physiological experiments.

The fermentation-test is generally looked on as more trustworthy; but Berthollet has pointed out that there are several other substances than grape-sugar which undergo an alcoholic fermentation with yeast. This test is very readily applied. If a solution of grape-sugar be added to a little yeast in a test-tube, and exposed for a short time to moderate heat, carbonic acid will be evolved. Alcohol may also be detected. This test has been suggested for determining the quantity of sugar in solution. According to Christison, every cubic inch of carbonic acid denotes a grain of sugar. It is necessary to be careful that for this purpose the yeast is perfectly pure. The ordinary yeast, as obtained from brewers, always contains saccharine matter; which, however, may be easily removed by washing.

Barreswil's and Trommer's tests consist in the use of a cupro-potassic solution. There is an objection to Trommer's test, that the liquid is thick; while Barreswil's solution is transparent. Barreswil's liquid contains the following ingredients:—

Bitartrate of potass - - -	960 grains.
Carbonate of soda - - - -	960 „
Caustic potash - - - -	640 „
Sulphate of copper - - -	320 „
Distilled water - - -	1 pint.

This forms a beautifully blue and transparent solution; being essentially a tartrate of copper dissolved in an alkali. It is very delicate, and will detect the presence of an extremely minute proportion of sugar. It may also be used in quantitative analysis with the greatest accuracy. A certain amount of sugar is required to throw down the oxide of copper; so that, the quantity of the solution used being known, the amount of sugar may be readily determined.

A modification of this test, used by the lecturer, is the following:—

Tartrate of potash - - - -	10 grains.
Sulphate of copper - - - -	5 „
Liquor potassæ - - - -	2 drachms.

The tartrate here used is the neutral tartrate. The potash and copper are mixed, and the liquor potassæ is added. The same kind of liquid is produced as in Barreswil's solution. There is an important source of fallacy attending this test: if the solution be kept long, it will of itself form a precipitate on boiling, though not so much as from a saccharine liquid. But the liquid is very easily rendered pure by the addition of a little potash.

It has long been known that in diabetes the urine contains saccharine matter. In the seventeenth century, Willis pointed out that diabetic urine was very sweet; and, a century afterwards Cowley isolated the saccharine matter. Later, Rollo thought that he had ascertained that the sugar in diabetes was formed by the action on the aliments of a depraved gastric juice, and that, so formed, it was taken into the circulation and eliminated by the kidneys. No doubt the blood of diabetic patients contains sugar; but its origin—the origin of the abnormal quantity—is not due to vitiated gastric juice. It was afterwards found by Magendie that sugar was formed normally in the intestinal canal during the digestion of certain materials, and that it was thence taken up and carried to the liver.

It is easily shown that, by the action of certain digestive fluids, starch is changed into sugar. If a solution of starch is agitated with Barreswil's solution, no change occurs; but if starch is mixed with a little *human* saliva, and exposed to a moderate heat, Barreswil's solution will show the presence of sugar. The pancreatic juice has the same effect, as may be proved by obtaining some of this fluid from the pancreatic duct of a dog. This is probably the especial agent in the animal system for changing starch into sugar. The saliva of man has this effect; but not that of the horse or dog; and besides, the materials remain but a short time in the mouth, and the further action of the saliva would be checked by the gastric acids as soon as the food arrives in the stomach. In the intestines, however, everything is favourable to the transformation: the gastric acid is neutralised; there is a sufficiently high temperature; and the alimentary mass and the pancreatic juice are kept for a length of time in contact. [The effect of pancreatic juice on a solution of starch was shown by an experiment.]

If pancreatic juice is mixed with oil, an emulsion is formed: the fat is minutely divided, and rendered fit to be taken up by the lacteals. If fatty matter or oil is mixed with saliva, the mixture is less perfect: in a little time, the oil floats to the top, while in the other case it remains blended with the pancreatic juice.

Sugar, when formed from the ingesta, is taken up by the portal system of veins, and conveyed to the liver. Bernard, who took up the matter where Magendie left it, says that the sugar is carried to the lungs, and there decomposed. It occurred to Bernard that there might be in the liver some material capable of forming sugar independently of the digestive process. To ascertain this, he fed a dog with strongly saccharine food, and traced sugar in the liver, the lower vena cava, the right side of the heart, and the pulmonary arteries as far as the lungs, but no farther. He then fed a dog with animal food alone. On killing the animal, he found a large quantity of sugar in the inferior cava, and in the right side of the heart; hence he inferred that there was somewhere a power of forming a saccharine principle. On examining the blood in the portal and abdominal veins, he found no sugar. He suddenly killed an animal fed without sugar or starch, and

placed a ligature on the portal vein. In a little time, he opened the chest, and found sugar in the blood of the vena cava and right side of the heart. This experiment has been confirmed; but sometimes there is a little sugar in the blood of the portal vein. This is supposed by Bernard to arise from a reflux of blood—an event which is liable to occur in death from pithing.

[Dr. Pavy performed some experiments with blood from the right side of the heart and from the liver of an animal. On adding Barreswil's solution to each, sugar was distinctly indicated in the former, while there was but a small trace in the latter.]

Finding, then, that blood which had passed through the liver contained much sugar, while some was found in the blood going to the liver, Bernard concluded that the liver had the property of forming sugar—that it had, as he expressed it, a *glucogenic* function. He went a step further, and discovered what he thought to be a material in the liver capable of conversion into sugar, to which he gave the name of glucogenic material, but which might be better termed amyloid substance. He took a liver, and, inserting a cannula, washed out the sugar by a stream of water. Next day, and for some days afterwards, he found that the liver yielded a large quantity of sugar. The inference from this experiment, which has been confirmed, is, that the sugar-forming property of the amyloid substance at least continues after death; and that the formation of sugar in the animal body is not a vital process.

According to Bernard, then, it appears that sugar is formed in the liver; that certain materials conveyed to the organ by the portal vein are changed into the amyloid or glucogenic substance; that this is changed into sugar, which is conveyed to the right side of the heart, and thence to the lungs, where it undergoes decomposition.

No doubt this tranformation of the amyloid matter takes place after death; but does it occur during life?

Some years ago, Dr. Pavy was making experiments to ascertain what became of the sugar during the passage of the blood through the lungs. In some of these experiments, he took blood, which he believed to contain sugar, from the right side of the heart of a dead animal, and injected it through the lungs of a dead animal supplied with air. Sometimes there seemed to be a disappearance of sugar. Meeting, however, with an impediment from the coagulation of the blood, he modified the experiment by removing blood from the heart of a living animal by catheterism through the jugular vein. On doing this, he found that there was scarcely any sugar in the blood; but even then (1854) he was so satisfied of the correctness of Bernard's views, that he attached no importance to the occurrence. Repeating the experiment two years later, with the same result, he determined to make a comparative examination of the blood of the right side of the heart during life and after death. In the former case, no sugar was detected in healthy animals; nor was it present in blood removed from the carotid artery.

The doctrine of Bernard, of the glucogenic function of the liver during life, is then open to grave doubt. The fact is, that the transformation of the amyloid substance into sugar commences so rapidly after death, that physiologists have been in error in supposing that it occurs during life.

There is no evidence of oxidation of sugar in the lungs. Liebig and his followers believed that sugar was oxidised to an acid in the development of animal heat. But, on examining this subject, it is found that sugar is very unsusceptible of oxidation, except under the influence of the strongest chemical reagents. Even oil, if its surface be greatly spread out, undergoes slow oxidation by exposure; but this does not occur with sugar.

Funeral of Professor George Wilson. The honours of a public funeral were, on Monday, paid to the remains of the late Dr. George Wilson, Professor of Technology in Edinburgh University. The obsequies were attended by the Lord Provost, magistrates and council in their robes, the professors of the University in their academic gowns, and by the directors and members of nearly all the learned and mercantile societies in the city. The long and mournful procession was witnessed by a large number of spectators, particularly in Princes Street and Waterloo Place, on the way to the Old Calton burying-ground. Almost all the societies in town, whether connected with science, literature, or trade, have had to inscribe on their minutes a sense of the loss individually sustained by them, and to express their gratitude for many services rendered to them by the deceased.

LETTERS AND COMMUNICATIONS.

Letters or communications for the Journal should be addressed to Dr. Wynter, Coleherne Court, Old Brompton, S.W.

Letters regarding the business department of the Journal, and corrected proofs, should be sent to 37, Great Queen Street, Lincoln's Inn Fields, W.C.

British Medical Journal.

SATURDAY, DECEMBER 3rd, 1859.

THE SPREADING EPIDEMIC OF SMALL-POX.

The epidemic of small-pox, which rather more than twelve months ago commenced its ravages in this metropolis, has steadily continued its progress, widening the area of its influence, and increasing its tribute of sickness and of death. Beginning in the central and eastern districts, where it still continues, it was at first more slightly, though still decisively, felt in the southern districts, in which it has now established a stronghold; and though the north and west have as yet suffered but little in comparison, there is no doubt but that their time will soon come. The mortality from this disease in London, which, during the quarters ending March, June, and September respectively, was 201, 233, and 287, has, during the last seven weeks, been 198. It is evident, therefore, that the epidemic has not yet reached its culminating point.

Such a state of things has naturally given rise to widespread alarm. It has become a topic of discussion in the daily journals. How, if vaccination be the prophylactic it is vaunted to be, is such mortality possible? A variety of explanations and suggestions, of more or less value, have been offered, most of them inculpating vaccination as it is now performed. Almost every question that has ever been asked and discussed with regard to its practice, has been repeated. Is it no longer a protection? Has the lymph deteriorated by successive transmissions? Is it improperly and imperfectly applied? or do its effects wear out in the system by the lapse of years? Though we venture humbly to think that the consideration of these important questions is more appropriate to the pages of a medical journal than of a newspaper, we unfeignedly rejoice in anything which calls the attention of the public to the great subject of vaccination, and its prophylactic powers; for it is only by the action of public opinion that either the Government or individuals will ever be roused to the exertions necessary to secure the universal diffusion of that inestimable blessing. It is a subject to which we feel bound to call the special attention of our readers; and we propose to pass in brief review the circumstances of this and other epidemics of small-pox in London, with the view of drawing from them such practical conclusions as we think may fairly be deduced.

From the vast population of this metropolis, small-pox is never absent; but there is great difference as to the extent to which it prevails at different periods. The following table, which we have compiled from the Registrar-General's Reports, will show what these fluctuations have been for the last twenty-two years; from the time, indeed, when the causes of death were first properly registered:—

Year.	Deaths from small-pox.	Year.	Deaths from small-pox.
1838	3,817	1849	518
1839	634	1850	498
1840	1,235	1851	1,066
1841	1,053	1852	1,166
1842	360	1853	217
1843	438	1854	676
1844	1,804	1855	1,024
1845	909	1856	522
1846	257	1857	154
1847	955	1858	247
1848	1,617	1859 (46 weeks).	919

The mortality of the present year, when complete, will, no doubt, exceed that of either 1851 or 1855; it will in all probability be about that of 1852.

It will be seen by this table that, while there are many years in which the mortality has exceeded 1,000, there are four in which it was below 300; that in one of these it scarcely exceeded 200, and in another amounted only to 154. The fluctuations will be still more conspicuous if, instead of arranging the mortality by years, we arrange it in periods marked by the presence or absence of epidemic influence. We have not thought it necessary to do this for the whole table, but for the last few years only, commencing from the time when the epidemic of 1851-2 came to its termination in the third, or September quarter of 1852. Of the 1,166 deaths ascribed to that year, all but 74 occurred before the end of September; and from the first of October to the present time, the small-pox mortality in London may be thus presented:—

	Deaths from small-pox.
Oct. 1852—Dec. 1853 (one year and a quarter)	291
Jan. 1854—Sept. 1856 (two yrs. and three-qrs.)	2148
Oct. 1856—Sept. 1858 (two years)	357
Oct. 1858—Nov. 1859 (one year and 7 weeks)	1037

The whole period of seven years is thus divisible into two portions—one, of three years and three-quarters, when the epidemic influence was present, and the deaths amounted to 3185; and the other, of three years and a quarter, when epidemic influence was absent, and the deaths were but 648. In 1857, the mortality was far lower than had ever occurred in London before; and there were several (not consecutive) weeks in that year in which not a single death from small-pox was recorded.

In regard to its fluctuations, small-pox is like scarlatina, like measles, and other epidemic diseases. After a certain time, all the susceptible are exhausted, and a period ensues during which that accumulation of susceptible persons again takes place which is essential to the existence of any disease in an epidemic form.

But small-pox is totally unlike scarlatina, measles, or any similar disease, in this remarkable respect, that it depends upon the people themselves to what extent it shall find them amenable to its influence, or, indeed, whether it shall find any susceptible at all; for in efficient vaccination they possess a means whereby they may, if they like, ward off this fell destroyer. Does any one doubt it? Let him look to a country like Bohemia, where the practice is all but universally diffused, and where, in a population of four millions and a half, the highest small-pox mortality which we have been able to find recorded in any year for twenty-one years has been 465, the whole weight of which mortality (382) fell on the small unvaccinated remnant which is to be found even in that well vaccinated land. The average annual mortality *among the vaccinated* in these twenty-one years was 20; yet epidemic influence had not been absent, and there were two well marked periods in which its influence was very conspicuous. In the absence of this, the annual mortality among the vaccinated was sometimes 7, 2, 3, 0, 3, 7, 8, etc.

Our mortality table for London is illustrative of the point. It does not show epidemic influence merely, but epidemic influence and the progress of vaccination (for progress there has been, and is) combined. Where, since public vaccinators were first appointed, do we find anything similar to what occurred in 1838? Where, within the last ten years, such mortality as that of 1844 or 1848? Let the table be divided into periods of seven years each, and the progress will be very apparent. It is miserable, however, to contrast our slow and imperfect advance with what has been accomplished for years in the kingdom we have mentioned. For the neglect which we have tolerated, and are still tolerating, we are now paying the penalty; for to neglect it is—and we say it without hesitation—that the present mortality is *mainly* to be attributed.

At what age does the mortality from small-pox occur? About one-fourth under the age of one; and three-quarters under the age of ten. Now we hold with Dr. Gregory, and it is a statement which has been confirmed by large and extensive inquiries, that fatal small-pox in a child under ten years of age, who has received efficient vaccination, is an extremely rare event; and we venture to affirm, with regard to nearly every one of these victims—constituting, be it repeated, three-fourths of the whole mortality—either that they had never been vaccinated at all, or that they had not been taken to be vaccinated until after they had received the infection of small-pox, or that having had vaccine lymph inserted without effect, or with a spurious result, the operation had not been repeated until a satisfactory issue had been obtained. In either case, in our sense of the word, the child had *not* been VACCINATED.

On incomplete and imperfect vaccination, and the influence it has on small-pox mortality, we propose to offer some observations next week. At present, we would call special attention to that class of cases, just alluded to, in which vaccination is not performed until the small-pox infection has been received, and too late for it to produce its protective result. Of these, in every epidemic, there are a large number; and they figure often in local registrars' reports as deaths from small-pox after vaccination! We have seen many deaths so recorded in children not twelve months old! Thus, not only do the children suffer by this procrastination of their parents, but the most unmerited disrepute is brought on the practice of vaccination itself. Now, small-pox is an enemy with which one must always be beforehand; and there is no more important duty, in presence of a wide-spread epidemic, than to point out the frightful consequences of *delay*. The legislature has fixed the age of three or four months *as a maximum*; but when small-pox is at hand, it is never too early to seek the protection which vaccination affords. And this duty is the more imperative the less complete the means of isolating; that is to say, it is most imperative of all in the case of the children of the poor, for these must perforce bide the coming of the destroyer, in whatever condition they may be—vaccinated or non-vaccinated. Whether they shall escape or fall victims, is as simple a question of common sense as whether England, in the case of an invasion, should be found defenceless, or well guarded by her wooden walls and by her well-trained riflemen.

THE WEEK.

Several cases of death, apparently traceable to the use of a preparation of opium in mistake for a black draught, have recently occurred at Canterbury. A few days ago, an inquest was held on a young man named Cole, who died on November 20th, after taking a black draught obtained at the shop of a chemist named Reeve. Subsequently, it was learned that a man named Coppins, aged 82, had also died a few hours after taking a draught from the same shop; and an inquest was accordingly held—the body, which had been buried eight days, being exhumed for the purpose. The widow of the deceased stated that, in the evening previous to his death, she purchased a black draught and a blue pill at the shop of Mr. Reeve. On her return home, she administered the blue pill to her husband; and at about seven o'clock the following morning (Tuesday) she gave him the draught. About an hour after taking the draught, the deceased was unable to walk, and with assistance witness got him into bed. Shortly afterwards, the deceased became very pale, and afterwards drowsy, in which state he remained for about three hours, when he died. Witness took a bottle to Mr. Reeve's shop for the draught, and the shopman poured it out of a phial into the one witness took. Robert Tassell, surgeon, made a *post mortem* examination of the body. The vessels of the brain were considerably congested, and about an ounce and a half of serum effused into the ventricles. The stomach contained about two ounces of thick brown fluid. Opium was found in this; but, as it was not ascertained what quantity of opium was really in the stomach, Mr. Tassell could not say with certainty whether death had been caused by apoplexy or by opium. A verdict of "Natural Death" was returned.

Within a couple of months, we have had to record two terrible catastrophes committed by persons lately discharged from lunatic asylums. Not long since, Dr. Parnell, a physician but lately a proprietor of a private asylum, himself was discharged from an asylum in the west of England, to all appearances cured. At all events, the proprietor declared that he felt he should subject himself to an action at law if he detained him longer. He was therefore sent into the country, for the further establishment of his health, and placed under the care of a medical man. He had not been long, however, in his new abode, before he cut the throat of the unsuspecting maid servant who came to his door in the morning with water. Terrible as this occurrence was, it has this week been eclipsed in the metropolis by a tragedy enacted by an unfortunate man named James Moore, who only as lately as last Wednesday was discharged from the Hoxton Lunatic Asylum. This man, after murdering his wife, cut off her head with a table-knife, and placed it in a washhand basin, in which position it was found by his landlord. These two terrible occurrences have, by their very enormity, shocked the public mind; yet they are but two out of many similar instances which have occurred within the last few years. There is such an amount of prejudice existing in the public mind against private asylums and their proprietors, that it is scarcely safe to raise one's voice in their defence; nevertheless, we cannot help thinking that these frightful homicides should lead fair-dealing persons to consider more liberally the conduct of the alienist physician in respect to the caution he exhibits in discharging patients as thoroughly cured. In the two instances under notice, we should not be surprised to find that a knowledge of the public feeling against what it terms unnecessary detention may have led the physicians in charge to allow them to leave their asylums earlier than they perhaps would have done if acting entirely without pressure. If this should really prove to have been the case, public injustice has indeed brought about its own punishment only too swiftly. Be this as it may, we predict that these catastrophes will go on increasing if the popular voice still continues to denounce private asylums as merely prisons for the detention, in many cases, of sane individuals. We have been told, on the authority of the *Times*, that there are hundreds of perfectly sane individuals at present deprived of their liberty in madhouses: the *Times* now is obliged, in its news columns, to inform the public that homicidal madmen but too easily find their way out of them.

MEDICAL REGISTRATION.

NOTICE.

The Medical Registrar presents his compliments to the Editor of the British Medical Journal, and would be much obliged if attention could be drawn to an advertisement sent herewith, in order that qualified persons who are still unregistered, those especially who have obtained their qualifications in the course of the present year, may not lose their opportunity of appearing in the *General Register* for 1860.

Medical Registration Office, 32, Soho Square, London, W.,
November 21st, 1859.

Association Intelligence.

MEETING OF COMMITTEE OF COUNCIL.

The Committee will meet at the Queen's Hotel, Birmingham, on Tuesday, December 6th, at 1 o'clock.

The state of the Finances, particularly with reference to the publication of the Journal, will be considered; the Readers of the Addresses at the next Annual Meeting will be appointed; and other business will be transacted.

Philip H. Williams, M.D., *General Secretary.*

Worcester, November 22nd, 1859.

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
Birmingham and Midland Counties. [Ordinary Meeting.]	Hen and Chickens Hotel, Birmingham.	Thursday, Dec. 8th, 6 P.M.
Midland. [Quarterly Meeting.]	Board Room, Infirmary, Derby.	Thurs., Dec. 8th, 3 P.M.

[To prevent delay, Reports of Branch Meetings should be sent direct to the office, 37, Great Queen Street.]

BATH AND BRISTOL BRANCH.

DIPHTHERIA.

At the last Quarterly Meeting of the Bath and Bristol Branch, it was resolved that an inquiry should be set on foot with reference to diphtheria. Dr. William Davies, of Bath, will be obliged by answers to the following queries: the replies being numbered according to the questions.

1. Number of cases, ; age, ; sex, ; and general condition of patients.—2. Condition of throat, especially as regards the presence of false membrane, etc.—3. Mode of treatment; local and general.—4. Number of deaths.—5. Cause of death in fatal cases.—6. *Post mortem* appearances.—7. General remarks.

Reports of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, November 22nd, 1859.

F. C. Skey, Esq., F.R.S., President, in the Chair.

THREE CASES OF TETANUS, IN WHICH WOORARA WAS USED IN THE TREATMENT. BY T. SPENCER WELLS, ESQ.

The author commenced by stating that, of upwards of three hundred cases of ovariotomy recorded, he had only found one in which tetanic symptoms were observed; and said that tetanus appeared in two out of four cases in which he had performed this operation last month; and that, although he had not seen a case of tetanus for upwards of ten years, a third case had occurred in his own practice within a month, after a very trifling operation. The author alluded to recent cases of tetanus treated on the continent by Vella, Manec, and Chassaignac; and to the experiments of Bernard with the alkaloid *curarina*, the active principle of the poison. The experiments of Sir B. Brodie in 1811, the application of the results of these experiments by Professor Sewell at the Veterinary College, and the subsequent experiments of Mr. Morgan and of Dr. Harley, had anticipated all that had been done recently on the continent, with the exception of making the actual trial on the human subject. The cases now brought forward were the first similar trials made in this country.

The author detailed the particulars of a case of chronic, but severe trismus, going on to opisthotonos, appearing a fortnight after ovariotomy in a patient forty-one years of age. The exciting cause appeared to have been a draught of cold water. Woorara was used hypodermically and epidermically, six grains of the extract having been used in six days. The patient recovered. In a second case, acute tetanus appeared seven days after ovariotomy in a lady thirty-eight years of age, and proved fatal in three days. The treatment was commenced by assafœtida injections; and woorara was afterwards used, the softened extract having been inoculated into both arms. In the third case, tetanus appeared four days after a simplified perineal operation for the relief of prolapsus uteri in a patient fifty-one years of age. It progressed slowly; was treated first by opium and ether, afterwards by woorara, and latterly by chloroform, the influence of which was kept up at intervals for forty-eight hours. The patient died on the evening the paper was read.

The author thought that he had seen enough to establish the following propositions:—1. Our knowledge of the physiological action of woorara,—of its antagonistic effects to the artificial tetanus of strychnine,—of the results of its use in idiopathic tetanus of the horse and ass, and the facts that two cases of chronic tetanus in man on the continent, and one in this country, have recovered during its application, should encourage further experiments. 2. Although three cases of acute traumatic tetanus in man on the continent, and two in this country, have died, notwithstanding the use of woorara, this should not discourage us from further trials, when we consider the very fatal nature of this form of tetanus, and the fact that in only one of these cases was the woorara applied in a large quantity. 3. Looking to the probable difference in strength of the specimens of extract brought to this country, and to the well-founded belief that they are not all prepared from the same species of vegetable, it would be well, in future trials, to use a solution of the active principle of woorara, the alkaloid *curarina*. 4. It is desirable to ascertain as far as possible, by experiments on the lower animals, what dose of this alkaloid might be inoculated with safety in man; and whether the artificial tetanus of strychnine establishes a tolerance of curarina. This would afford some test as to the safety of using much larger doses in man when suffering from tetanus than when in a state of health. 5. Veterinary surgeons should be requested to aid us in our attempts to determine the value of woorara when treating tetanus in the lower animals by carrying on the dose of the poison until its full effects were shown by suspending animation, and then restoring the animal by artificial respiration. In conclusion, he suggested that more accurate observation is much needed of what may be called the *Natural History of Tetanus*. It was, he said, most interesting and important, therefore, to discover whether we may not have two very different conditions confounded under the single term tetanus; whether in some cases we have spasms dependent upon irritation of a peripheral nerve and increased reflex excitability; and in other cases a blood-disease caused by the absorption of a morbid animal poison, developed by perverted secretion of the wounded surface; which poison is analogous in its effects, and possibly in its composition, to urea, strychnine, and the poison of hydrophobia.

Editor's Letter Box.

MILITARY LUNATICS.

Letter from G. R. Dartnell, Esq.

Sir,—The leading columns of the British Medical Journal of the 19th instant, contain a justly indignant article on the practice which prevails at Chatham of turning lunatic soldiers loose on the streets, to be taken up by the civil authorities. The main circumstance to which you direct attention is no doubt true; but your information on some other minor points appears to be hardly correct.

1. The practice of thus discharging certain lunatics from the General Military Hospital at Chatham has existed, for a considerable length of time, and is not altogether, I believe, in violation of the law, although it is doubtless considered repugnant and offensive to the public, harsh and unfeeling towards the soldier, and apparently an imposition on the Rochester Union, which it is not surprising should at length be resisted.

2. The "asylum" to which you allude is nothing more nor less than a small hospital, which was erected about three years ago within the ramparts of Fort Pitt, and is merely intended for the reception of insane soldiers on their first arrival from abroad, and where they are kept only until decision can be come to as to their fitness or unfitness for further service; it must, therefore, be clear that this small and temporary establishment cannot be "clogged with incurable cases."

3. The order for the discharge of these soldiers does not originate with the military or medical authorities of the garrison, but with the War Department. The soldiers so discharged are usually men of short service, entitled only to a small temporary pension, and are handed over to the Rochester Union for the purpose of being forwarded on to their respective parishes, the trouble and expense of which constitute, I believe, the chief ground of complaint of the Union authorities.

4. With respect to "the military arm of the service not having its hospital for insane incurables, where the afflicted soldier might pass the remainder of his days in the same comfort as incurably insane seamen do at Haslar hospital," I beg to observe that such an institution did exist for upwards of thirty years, and was highly appreciated by officers, as well as soldiers and their wives, the number of patients of the three classes generally averaging about one hundred. The Military Asylum was first established at Fort Clarence, near Rochester, but that fortress being required for conversion into a military prison, and being very properly considered unfitted for the reception of lunatics, the patients were removed, in 1844, to the artillery barracks at Shorncliffe, and subsequently to the unoccupied naval hospital at Great Yarmouth, which, at considerable expense, was fitted up for the purpose. Here the lunatics were exceedingly comfortable, and a great advance was being latterly made in the amelioration of their condition (with the liberal sanction of the Secretary at War), by the establishment of workshops for the useful employment of the inmates, and the introduction of all the modern improvements in the non-restraint and conciliatory system.

On the breaking out of the late war with Russia (1854), the Admiralty demanded the restitution of this hospital from the military authorities, for the purpose of appropriating it to the reception of the sick and wounded of the Baltic fleet, when the poor lunatics were abruptly removed, to be "farmed out" to private asylums, and the whole establishment was permanently broken up. The officers were sent to Coton Hill, near Stafford, and the soldiers and women to a private asylum at Bow.

It is deeply to be regretted that this valuable and rapidly improving institution should thus suddenly have been abolished, which it was, I believe, solely on the plea of public economy. The Commissioners in Lunacy remonstrated loudly against the measure; and have repeatedly urged upon the military government the justice and necessity of re-establishing an asylum for the lunatic officers and soldiers of the British army,

which, from the increased spread of mental disease, and the late extensive augmentations to the army, seems to be more urgently called for than ever. I am, etc.,

Geo. R. Dartnell, *Inspect.-Gen. of Hosp. H. P.*

Arden House, Henley-in-Arden, 28th Nov. 1859.

PYÆMIA IN A CASE OF WOUND OF THE INTERNAL JUGULAR VEIN.

Sir,—I think a little healthy criticism now and then is not a bad thing; and the first case, in No. cli of your Journal, seems peculiarly adapted to display its utility. Here we have a case of suppurating wound of the neck, from which pus is evacuated by enlarging the wound; subsequently to this, rigor taking place, followed by cough, causing secondary bleeding, and death following in twelve days under symptoms of pyæmia. Mr. Birkett is stated to have said that the most interesting point in this case, was "the development of pyæmia as a consequence of direct and immediate communication between a large vein and a deep wound so situated, that, if suppuration took place, the pus would collect, and probably enter the wounded vein." If from this he means us to conclude that the pus did do so, and thus cause the so-called pyæmia, I am disposed to dispute the pathological inference for the following reasons:

1. If the pus could get in, the blood could get out; and hæmorrhage ought to have been one of the earliest warnings of the untoward state of matters. Yet we hear of no secondary bleeding until after the occurrence of pneumonia as one of the earliest symptoms of pyæmia; and then it was caused by the "violence of the cough," clearly showing that the only reliable symptoms of communication between the cavity (*lumen*) of the vein, and that of the abscess, was caused by what it was supposed to originate.

2. Supposing that the pus had got into the vein, why should it kill by producing pneumonia, and not by exhaustion alone, in the usual way of cases of leukæmia, between which and true purulent blood there is really no distinctive mark?

3. There seems to be a more rational way of accounting for the phenomena of this case, by supposing that the external sloughing, which preceded the formation of pus, was accompanied by more or less softening of the clot lying in the vein, by the washing off of particles of this clot, and their subsequent impaction in the lung causing inflammation and suppuration; in short, by all the usual phenomena which we know to occur in the train of what has been termed emboli. In his recent work on cellular pathology, Virchow utterly denies the existence of such a disease as pyæmia, and explains its apparent occurrence in connexion with phlebitis in the manner I have attempted to describe as being a reasonable method of accounting for the phenomena in this case.

I am, etc., Philalethes.

Edinburgh, November 21st, 1859.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

* *In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of sons, the wives of—

McShane, C., Esq., Surgeon R.N., at Blackheath, on Nov. 24.

Otway, W. C., Esq., Surgeon, at Newington, on Nov. 29.

*Sinclair, D., M.D., 17, Terrace, Camberwell, on Nov. 27.

Of daughters, the wives of—

Hamilton, E., M.D., 22, Grafton Street, W., on Nov. 25.

Hutchinson, R. F., M.D., Civil Surgeon at Arrah, Shahabad, Bengal, on October 16th.

Stephens, J. E., M.D., 17, St. James's Place, on Nov. 25.

Watkins, James, M.R.C.P., at West Dulwich, on Nov. 22.

MARRIAGES.

Coucher, Martin S., M.D., of Weymouth, to Mary Jane, eldest daughter of the late Rev. C. Clifton, of Tymacor, Brecon, at Abbotsbury, on November 23.

Ghinn, Henry, Esq., of Farnworth, to Sophia, widow of the late James Hyslop, Esq., Surgeon, at All Souls' Church, on November 23rd.

Heynes, John, Esq., Surgeon, to Emily, eldest daughter of the late John Mears, Esq., of Bagshot, at Eversley, on November 24th.

Sumpter, Walter, M.D., Surgeon, Clay-next-the-Sea, to Esther, second daughter of the late J. F. Johnson, Esq., of Salthouse, Norfolk, on November 23rd.

DEATHS.

*Bailey, James, Esq., of Wednesbury, at Worthing, on October 30th.

Broxholm. On November 24th, at Sunbury, aged 72, Sarah, widow of the late Robert Broxholm, Esq., Surgeon.

Lawrie, James A., M.D., Professor of Surgery in the University of Glasgow, aged 58, on November 23rd.

Pankhead, Charles, M.D., at Florence, aged 92, on Nov. 26.

*Sandford, Richard, Esq., Wolverhampton, aged 39, on November 17th.

Spackman. On November 27th, at Harpenden, Caroline Harriet, wife of F. R. Spackman, M.D.

Wilson, George, M.D., Professor of Technology in the University of Edinburgh, on November 22nd.

APPOINTMENTS.

Hughes, H. Hunter, Esq., Surgeon, elected Mayor of Pwllheli.

Mapother, E. D., M.D., elected Surgeon to St. Vincent's Hospital, Dublin.

*Mitchinson, George, L.R.C.P.I., elected Physician to the Lincoln County Hospital, in the room of Dr. Elmhirst, resigned.

PASS LISTS.

Royal College of Surgeons. The following members of the College, having undergone the necessary examinations, were admitted to the Fellowship at a meeting of the Council, on November 24th:—

Andrew, Edwyn, University College Hospital: diploma of membership dated November 30th, 1855

Croft, John, the *Dreadnought:* October 6th, 1854

Hill, M. Berkeley, Stapleton, near Bristol: July 26, 1858

Marriott, Charles Hayes, Kibworth: April 30th, 1858

Painter, Richard Budd, Brydges Street: April 9th, 1847

HEALTH OF LONDON—NOVEMBER 26th, 1859.

[*From the Registrar-General's Report.*]

		Births.	Deaths.
During week	Boys .. 904 / Girls .. 881	1785 ..	1307
Average of corresponding weeks 1849-58..		1548 ..	1331

Among the causes of death were—phthisis, 165; bronchitis, 198; pneumonia, 73; hooping-cough, 30; small-pox, 30; scarlatina, 84; diphtheria, 13. Of bricklayers, 2 died in the week, of bricklayers' wives, 1, of bricklayers' children, 4; of carpenters, 13 died in the week, of carpenters' wives, 5, of carpenters' children, 18; of masons, 1 died, of masons' children, 4; of painters, 8 died, of painters' wives, 2, of painters' children, 12; of plasterers, 2 died, of plasterers' wives, 1, of plasterers' children, 2.

Barometer:

Highest (Wed.) 29·905; lowest (Tues.) 29·835; mean 29·797 in.

Thermometer:

In sun—highest (Mon.) 63°; lowest (Fri.) 41·5°.

In shade—highest (Wed. & Sat.) 53°; lowest (Tues.) 28·8°.

Mean—41·1°; difference from mean of 43 yrs.—0.3°.

Range—during week, 24·2°; mean daily, 16·3°.

Mean humidity of air (*saturation*=100), 95.

Mean direction of wind, S.E.—Rain in inches, 0·08.

The Profession in Portugal. The *Gazette des Hôpitaux*, quoting from the *Gazeta Medica de Lisboa*, states that the number of students in medicine has been steadily diminishing in Portugal. From an official document, it appears that, from 1839 to 1859 inclusive, 1949 entries took place at the Medico-Chirurgical School in Lisbon, being an annual average of 100 divided over the five years of study; and that 339 theses were sustained. But, while there were 271 entries in the year 1838-39, there were only 62 in 1848-49, and 30 in 1858-59. In 1844-45, 54 theses were sustained; and the number was reduced to 8 in 1858-59.

LEEDS MEDICAL REGISTRATION ASSOCIATION.

At a large meeting of the medical practitioners of Leeds and its district, held in the Lecture Room of the Leeds School of Medicine, on November 25th—C. G. Wheelhouse, Esq., in the chair—it was finally determined that a Medical Registration Association should be formed under the above title; and the following resolutions were passed :—

1. Proposed by Mr. Settle, seconded by Mr. Pullan, and carried unanimously—

"That with a view to secure the efficient operation of the New Medical Act, and to afford assistance to the Registrar in the execution of his important duties, it is, in the opinion of this meeting, expedient that a Medical Registration Association be formed for Leeds and its neighbourhood; that such an Association be now formed; and that it be entitled the 'Leeds Medical Registration Association'."

2. Proposed by Mr. Garlick, seconded by Mr. Radcliffe, and carried :—

"That after this meeting, all persons wishing to join the Association be admitted by ballot, and that the votes of two-thirds of the members present at such meeting be required to obtain admission."

3. Proposed by Mr. Dobson, seconded by Mr. Scattergood, and carried :—

"That the objects of this Association shall be to prevent unqualified persons becoming registered; to obtain the removal of the name of any person who may have obtained registration by fraudulent means; and to prosecute unqualified practitioners."

4. Proposed by Mr. Carter, seconded by Mr. Garlick, and carried :—

"That this Association affliate itself upon the 'London Medical Registration Association', and thereby avail itself of the advantage offered by it of a public prosecutor."

5. Proposed by Mr. Dobson, seconded by Mr. Holmes, and carried :—

"That the subscription to the Association be 10*s.* 6*d.* per annum, paid in advance."

6. Proposed by Mr. Price, seconded by Mr. Settle, and carried :—

"That a Committee be formed for the working of the Association; and that the following gentlemen be requested to allow their names to be placed upon such Committee, with power to add to their number: *President*—Wm. Hey, Esq. *Vice-Presidents*—Samuel Smith, Esq.; J. P. Garlick, Esq. *Treasurer*—Wm. N. Price, Esq. *Secretary*—Jas. S. Loe, Esq. Wm. Clayton, Esq.; Thomas Dobson, Esq.; William Hall, Esq.; F. Holmes, Esq.; H. W. Price, Esq.; Thos. Scattergood, Esq.; J. Seaton, Esq.; T. Pridgin Teale, jun., Esq.; C. G. Wheelhouse, Esq."

7. Proposed by Mr. Wheelhouse, seconded by Mr. W. N. Price :—

"That the following be the duties of the Committee: To secure a correct list of the legally qualified practitioners of the district; to obtain a correct list of those persons who are known to be practising medicine in the district without legal qualification; to consider the means most likely to be successful in detecting and exposing the illegal practice of such persons, and in preventing a recurrence of the same; to call a General Meeting to submit their report upon these points, and on any other matters in the New Medical Act worthy of notice, for sanction and approval."

8. "That the Secretary be empowered to provide the necessary books, and collect the subscriptions."

9. "That a printed copy of the proceedings of the day be forwarded by the Secretary to all persons to whom the former circulars have been sent."

The "Docteur Noir" in trouble. The celebrated cancer-charlatan, M. Vriès, who made so much noise a short time ago in Paris, under the name of the "Docteur Noir," has come to grief at the hands of his creditors. By judgments, dated August 19th, and October 15th, he was condemned to pay a sum amounting to £80 for lodgings, and another sum of £220 for interests and damages, due to MM. Paysant and Lanquet, horse-dealers, in whose house he had occupied apartments. The horses, carriages, and furniture of M. Vriès were seized by the creditors as security; and, as he resisted the payment of the debt, the creditors have, in accordance with the French law, obtained legal authority to offer them for public sale.

American Laws regarding the Sale of Poisons. The States of Maine and New Hampshire require arsenic, corrosive sublimate, nux vomica, strychnine, and prussic acid, to be sold (except upon prescription of a physician) only under the following restrictions: 1. The bottle or package must be furnished with a label bearing the name of the article, and the word "Poison" distinctly upon it. 2. The name of the purchaser, together with the quantity bought, must be entered upon a register kept for that purpose. 3. None of these articles may be placed on, or within 200 rods of, a highway, for the purpose of killing noxious animals. The penalty in the former State may be 50 dollars, in the latter 100 dollars. Michigan, Wisconsin, Oregon, Iowa, and Missouri, also require labels for substances usually called poisonous, and the last-named State provides that they shall not be sold to minors or slaves. The penalty in the three first States may be 100 dollars. The statutes of Massachusetts provide that any person selling arsenic, strychnine, corrosive sublimate, or prussic acid, except upon the written prescription of a physician, shall keep a record of the date, the article sold, its amount, and the name of the purchaser. The penalty is not more than 50 dollars. Any purchaser giving a fictitious name is liable to a fine not exceeding 50 dollars. The Ohio code provides that no person shall sell or give away any poisonous substance, save upon the prescription of a physician, except under the following restrictions: 1. He shall register, in a book kept for the purpose, the name, sex, and colour of the purchaser; the quantity purchased; the purpose to which the purchaser intends applying it; the day and date on which the purchase was made; the name and residence of the person for whom it is purchased. 2. The bottle or package shall be labelled "Poison." 3. Such articles shall not be sold to minors. 4. No quantity of arsenic, less than one pound, shall be sold, except upon prescription of a physician, until it shall have been mixed with soot or indigo, in the proportion of an ounce of soot or half an ounce of indigo to an ounce of arsenic. In the State of New York, the following prohibition alone exists: "Any person who sells or delivers any poisonous substance, without having the word 'Poison' written or printed upon a label attached to the phial, box, or parcel, in which the same is so sold or delivered; or who sells or delivers any tartar-emetic without having the true name thereof upon such a label, is guilty of a misdemeanour. Any person who violates this section, or whose partner, clerk, or servant, does so, is liable in damages to any party injured in consequence thereof." (Dr. B. Lee in *American Medical Monthly*, September, 1859.)

Vaccination. A recent correspondent of the *Times* makes the following remarks: "There is an establishment in Paris where there is maintained a constant succession of calves affected with the cow-pox, and on stated days, duly advertised by the institution, children are inoculated directly from the calf; and, for the benefit of those at a distance, fresh matter is sent as often as required in small tubes (5f. each), hermetically sealed, and which travel by post all over the world without the matter losing any of its virtue. I have myself twice sent such tubes to India, and upon each occasion with complete success; and I believe there is no instance on record where vaccination thus practised has failed to be an effectual preventative against small-pox. The cow-pox is a very frequent disease among cows, but were matter from the pustule of a common cow to be employed in inoculating a child, the disease communicated would be of so violent a nature as to cause, if not danger, a great deal of unnecessary suffering; and it has been found advisable to diminish the violence of the disease by, I think, eight transmissions from calf to calf before the matter becomes suitable for the child. Such being the case, no other result could be expected of all the transmissions which have been going on here since Jenner's time, 60 years ago, than that the original strength of the matter should be too much weakened for it any longer to be depended on as a sure preventative of small-pox. The institution in Paris is not a Government one, but supported by private subscription, and has existed ever since 1829. We are already, therefore, some thirty years behind France in this matter, and it may well be asked how many more we are to remain so? This society is called 'La Société Nationale de Vaccine de France,' and was established chiefly by the energy and exertions of the late Dr. James, a Frenchman, who was the life and soul of it as long as he remained alive, but he died some six or eight years back, and his immediate successor in the management was and probably is Dr. B. Mangeant, and for the use of those wishing to obtain any further information, or to send for some of the tubes, I will here add his address in

full, as it was three or four years ago. M. le Dr. B. Mangeant, Médecin Vaccinateur de la Société Nationale de Vaccine de France, 8, Faubourg St. Denis, Paris."

THE FACULTY OF MEDICINE IN PARIS. The Faculty of Medicine in Paris was opened on Friday, November 18th. M. Wurtz delivered an eulogistic address on the late M. Soubeiran, the eminent pharmacologist.

TO CORRESPONDENTS.

POSTAGE OF MANUSCRIPT AND PRINTED MATTER.

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PHILIP H. WILLIAMS, General Secretary.

Worcester, December, 1859.

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